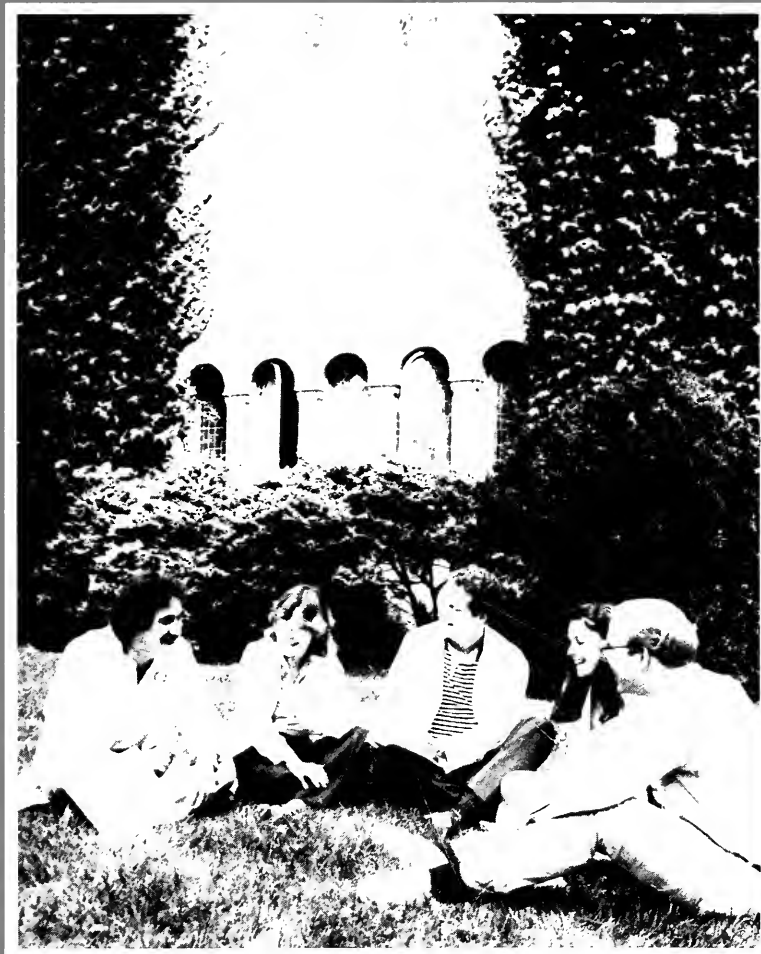


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UNIVERSITY

bulletin



COLUMBIA UNIVERSITY
School of Dental
and Oral Surgery
1983-1985

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School of Dental
and Oral Surgery
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D.D.S. Program

Postdoctoral Programs in Dental Specialties

Dental Hygiene Programs

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The School of Dental and Oral Surgery

The School traces its origin to 1852, when the New York State legislature chartered the New York College of Dentistry, later renamed the New York College of Dental and Oral Surgery. In 1916 Columbia University, having recognized dentistry as an integral and important part of the health sciences and a true university discipline, established its own school of dental education. Shortly thereafter, the new Columbia University dental school absorbed both the New York Post-graduate School of Dentistry and the New York School of Dental Hygiene. In 1923 it was joined by the New York College of Dental and Oral Surgery to form the present School of Dental and Oral Surgery of Columbia University, thus completing a series of unique and complex mergers.

The institution has remained a leading force in dental education and research ever since its establishment. In the early 1920s Professor William J. Gies of the Columbia Biochemistry Department established the International Association for Dental Research, the first organization devoted exclusively to research in the field of dentistry. In 1926 Professor Gies prepared the report *Dental Education in the United States and Canada* for the Carnegie Foundation for the Advancement of Teaching. This was a major critique of dental education in the United States, and its publication resulted in the acceptance by dental schools throughout the country of the basic educational policies and objectives developed at Columbia University.

Dentistry in the 1980s

In recent decades, complex societal and governmental forces have had an increasing influence on dental education and the practice of dentistry in the United States. Government has come to view health services in the same light as public utilities, and members of the public have come to view themselves as active participants in the health care system rather than as passive recipients of treatment.

Through advances in research and through the evolution of newer modes of practice, the field of dentistry has developed the capacity to deliver quality dental care to large numbers of individuals. A major unsolved problem is how to devise ways of using this great capacity to provide care at a reasonable cost to a greater proportion of our population, including those who do not now have adequate and easy access to dental care because of poverty or special problems such as handicaps, age infirmities, or remoteness of location.

Just as the practice of dentistry is undergoing considerable change, dental education similarly faces a number of challenges for the future. The School of Dental and Oral Surgery is responding to these challenges through the development of new instructional programs and long-range planning designed to provide flexibility in educational options.

A necessary mission of the School is to prepare dental students to face a professional future in which many changes may be anticipated. Students completing the D.D.S. degree within the next few years will enter a professional world in which traditional health-care systems and the old values are still strong. They must be able to function successfully and contribute through some existing career role in that world, but during their active professional life span of approximately forty years the health-care system, including dentistry, surely will change substantially.

Changes in the economics of dental health care may also be expected from scientific research aimed at reducing the prevalence of dental caries and other dental diseases. The need for well-trained dentists in this country will remain strong, however, as the growing population of elderly persons in the United States who require care will place important demands on the dental care delivery system. While it is difficult to predict accurately the outcome of these changes and the results of these forces on dental practice, it is clear that future graduates in dentistry must be provided with an education that will permit them to adapt to a changing way of life and a changing demography. The new dentist must have the commitment, the capacity, and the ability to continue to learn during a long and constantly changing professional lifetime. These are attitudes and skills that must be fostered in the dental educational process.

Curriculum

Many departments of the University contribute to and collaborate in the education of dental, postdoctoral, and dental hygiene students, assuring them a broad foundation for sound professional development. The guiding educational policy of Columbia University is the pursuit of excellence, and the primary goal of the School of Dental and Oral Surgery is the preparation of graduates equipped to fulfill their obligations to the individual, to society, and to the profession.

The University, recognizing the need for greater emphasis on the prevention of dental disease, constantly strives to revise the academic program. The curriculum is designed to increase a student's appreciation for the conceptual basis of dentistry. Adequate preparation for the demands of dentistry requires an understanding of broad biological principles integrated with a continually evolving body of scientific information in clinical dentistry and basic dental research. Predoctoral students, as directed observers, are exposed to a full spectrum of dental problems. They are then introduced to surgical and manipulative procedures as well as to methods of diagnosis and the prevention of disease. Emphasis is on the close relationship between health and disease, both systemic and oral; on systemic aberrations that affect oral structures; on diseases of the face and mouth that may affect other organ systems; and on oral health as an essential component in total health.

Clinical training is broad in scope. It is designed to produce competence in the recognition of oral disease and disorders, stress the essential role of prevention in the control of oral disease, establish the concept of maintaining oral structures in optimal health, and to develop skills in the planning and rendering of treatment.

A curriculum must be considered as only the initial framework for a student's lifetime participation in the profession of dentistry. To this end, the curriculum cultivates in students habits of independent thought and scholarship and encourages the continual evaluation of new knowledge. The future development and attainment of professional competence are assured by fostering the spirit of inquiry, and the School stresses the application of the scientific method and student participation in research.

Knowledge of the processes of human growth and development and of the prevention of disease and abnormality has resulted in an extensive reduction in infant and child mortality, and in a marked increase in the life span of the individual. In dentistry, prevention of dental and oral disease and disorder provides an opportunity for children to reach adulthood with complete, healthy dentitions. The increased life span of Americans, on the other hand, presents many physiological, pathological, and psychological problems that are peculiar to the aged and must be considered when

rendering dental treatment to elderly patients. Individuals with medical, neurological, and other handicaps also present special problems, and they have been able to receive dental treatment through the establishment of special facilities in the School such as the Treatment of the Handicapped Clinic, in which all dental students receive training.

The School also provides for the training of auxiliary personnel to augment dental health services. The Division of Dental Hygiene programs are designed to educate students toward an appreciation of their role in a professional society, toward an awareness of the ways in which professional activities involve them in a wide range of decisions, and toward expertise in clinical skills. Candidates are selected on the basis of scholarship, achievement, and ability to prepare for leadership positions within the profession. The undergraduate programs in dental hygiene focus on fundamental knowledge and provide a base for graduate education. The graduate program extends and deepens knowledge and practice in a particular area of interest.

A dental auxiliary utilization program trains dental students in the efficient use of auxiliaries. In order to increase awareness of dental treatment needs in underserved communities and population groups, the fourth-year student participates in an extramural clinical clerkship at one of several metropolitan hospitals.

The University recognizes that accomplishing the objectives of its dental education program requires the selection of students with superior abilities and academic qualifications, acquisition and maintenance of an excellent staff, and the constant pursuit of knowledge through an active and diversified research program. Conscious of these needs, the School selects its students with care and maintains small classes with a favorable ratio of staff to students. This ratio permits individual instruction and a stimulating relationship between student and instructor. Through the years the School has had a distinguished staff which has demonstrated accomplishment in educational research and professional leadership, and which continues to prepare students for the expanding professional responsibilities of dentistry and the prevention of dental disease.

The Study of Dentistry in New York City

New York City offers an extremely advantageous setting for the study of dentistry. Many of the most talented dental professionals of the nation and of the world maintain practices in New York City, and there are opportunities for students to visit private offices, clinics, and hospital dental services in return for a quick ride downtown. In addition, the professional dental resources of the city provide students with exposure to leading authorities in every field of dentistry, many of whom serve on the faculty of the School.

At the same time, Columbia students have opportunities for an unusually wide choice of cultural and artistic activities for which New York City is well known. Museums, theatres, opera houses, concert halls, and cinemas provide almost unlimited entertainment possibilities. Finally, for those interested in pursuing educational courses in addition to dentistry, Columbia University and numerous other academic centers in the city offer many opportunities for extracurricular learning.

Programs of Study

D.D.S. Program

The School offers basic science courses to both dental and medical students in the form of a "core" program. During the first year the dental student takes all the required basic science subjects except pharmacology, neural science, and general pathology, which are second-year courses. Also in the first year the dental student is required to take: (1) *Interdisciplinary Correlation D5002—Introduction to dentistry*, which reviews the history and nature of dentistry and its significance, as well as the means of delivery of dental care and the kinds of preventive treatment services that modern dentistry provides; (2) an interdisciplinary course, *Behavioral Science D5851—Human behavior*, dealing with psychological aspects of dentistry and patient care; and (3) *Orofacial Development D5450–D5451—Oral anatomy and occlusion*, which introduces students to the fundamental concepts of dental morphology and emphasizes the importance of physiologic function to continued oral health.

The second year is essentially a "core" dental science year in which the curriculum serves to correlate the application of basic biological information to oral and dental problems that will be faced later in clinical practice. The conceptual basis for the application of modern scientific methods in the recognition, prevention, and treatment of dental disorders is stressed in a range of courses that includes cariology, genetics, growth and development, dental materials, radiology, and preventive dentistry. Clinical observation, small group teaching, and seminars provide the second-year student with a comprehensive view of dentistry, while technical laboratory courses in dentistry provide preparation for the clinical years. The program also includes integrated courses in dentistry (recognition, prevention, concepts of therapy, instrumentation, and clinical observation), as well as a course in psychosocial aspects of dentistry.

The third year is primarily clinical, with training in all phases of dentistry. Emphasis is on correlation of the various dental disciplines with one another and with the basic sciences. Prevention and comprehensive treatment are stressed while technical laboratory procedures are limited. The third- and fourth-year students function as a group, or module, in a setting similar to that of private practice, where total patient care is rendered by each student and supervision is under an interdisciplinary teaching team. This teaching team is supplied by the professional staff of the divisions of Periodontics, Operative Dentistry, Prosthodontics, Preventive Dentistry, and Endodontics. Consultation services are made available by the divisions of Oral Diagnosis, Oral Surgery, and Orthodontics. The postdoctoral programs of endodontics and periodontics serve the undergraduate clinical modules by treating difficult cases in their specialty areas.

During the fourth year the opportunity to choose electives or area-of-concentration programs in special areas of dentistry is made available. In order to increase their ability to view clinical cases in a comprehensive manner, fourth-year students spend time as student preceptors in the clinic and in seminars held in conjunction with underclassmen and the staff. Area-of-concentration programs in endodontics, orthodontics, pedodontics, periodontics, prosthodontics, and biological science research are offered to selected highly qualified students in their fourth year of study.

As a result of the constantly expanding body of knowledge in basic and dental sciences and the need for adequate clinic time, two summer sessions are required: (1) between the second and third years; (2) between the third and fourth years.

Throughout the entire course an effort is made to interrelate the different phases of dental learning by means of "correlative" and "combined" clinics in which the various departments and divisions cooperate in the discussion and demonstration of the same and related problems and thus treat the study of dentistry as a unit rather than a series of isolated branches of learning. At the same time an attempt is made to individualize instruction and to place responsibility as far as practicable upon the student for his or her own training. This is accomplished by the division of classes into modules and review sessions, and by the comprehensive case method of instruction.

Voluntary participation in research projects of the student's choosing and in programs under the guidance of members of the faculty is earnestly encouraged. Members of the William Jarvie Society for Dental Research, the undergraduate research and honor society, undertake individual and team projects under the direction of members of the faculty. Lectures on the principles and practice of research are provided and, in addition, students assist in the execution of studies being pursued by faculty members. A limited number of student research fellowships are available for summer work under the direction of the staff. The scope of student research includes critical reviews of the literature, clinical studies in the techniques of the various disciplines of dentistry, and the evaluation of newer therapeutic agents and dental materials. Work in the basic sciences is encouraged. For a complete description of this program, see *The D.D.S. Program*, below.

Postdoctoral Programs

The School is authorized to grant certificates of training in the specialties of dentistry. Programs for the certificate of training include advanced study in the clinical and basic sciences of dentistry. At present, programs are offered to qualified graduates in dentistry who wish to prepare for specialization in endodontics, orthodontics, pedodontics, and periodontics. These programs are described in detail under *Postdoctoral Programs in Dental Specialties*.

Continuing Education

Consistent with the belief that a lifetime of learning is necessary for continued competence in the health profession and that dental education must be a continuum which extends throughout the professional career, the School of Dental and Oral Surgery offers a program of short courses of varying lengths on diverse subjects.

These continuing education courses are given at irregular times throughout the academic year and are announced by special brochures, notices in journals, and special mailings.

Courses may range in length from one day to one week or may meet weekly for an entire term. They are designed to enable the practitioner to review and continue his or her educational experience in fields where research and its clinical application present constantly changing concepts of prevention, diagnosis, and treatment. These short courses acquaint the participant with the latest advances in the various fields of dentistry.

A number of specially designated courses among those described under *The D.D.S. Program* and *Postdoctoral Programs in Dental Specialties* are offered for audit as Continuing Education Courses. These courses are available for attendance by nonmatriculated practitioners and other professionals through the Division of Continuing Education and are described in periodic Continuing Education brochures and announ-

cements. They are identified in this bulletin by the letter ^A preceding the course number.

For Visitors and Visiting Scholars to the School of Dental and Oral Surgery

Qualified students are offered the opportunity for guided study, attendance, and observation of clinical and classroom education under the direction of a faculty member for variable periods of the school year not necessarily corresponding to regular academic intervals. Faculty members of other institutions may be granted visiting scholar privileges, which include auditing clinic and classroom courses (as approved by the course instructor), attending lectures, and participating (with the approval of the appropriate faculty member) in seminars.

This course is offered without credit. A special fee is determined after consultation with the Director of Continuing Education, depending on the courses to be audited and the length of time to be spent in attendance. No official records of attendance are kept, and no transcript certifying attendance or work undertaken is provided by the registrar. Arrangements for enrollment are made directly with the Director of Continuing Education.

Programs for Dental Hygienists

Columbia offers a bachelor's and a master's degree in dental hygiene. Candidates for the Bachelor of Science degree under the classification of Program A (for the student with two years of college credit) are admitted only in September; candidates for the Bachelor of Science degree under the classification of Program B (for the student with two years of dental hygiene college credit) are admitted in September, January, or July. The program for the M.S. degree provides advanced education in dental hygiene administration, research, and teaching. Please consult *Dental Hygiene Programs*, below, for details of the programs.

Graduate Courses in the Basic Sciences

A limited number of fellowships are available to graduates of accredited dental schools. These fellowships offer opportunity for study in the following basic-science departments of the University: anatomy, biochemistry, microbiology, pathology, pharmacology, and physiology. For further information, address the Dean, School of Dental and Oral Surgery, Columbia University, 630 West 168th Street, New York, N.Y. 10032.

Courses Leading to the Degree of Doctor of Philosophy

Graduation from accredited dental schools under the present curriculum of four academic years preceded by three acceptable predental college years is considered by the Graduate School of Arts and Sciences of Columbia University to meet the general requirements for admission. There are additional admission requirements in certain departments. A student who is accepted by the Graduate School as a candidate for the degree of Doctor of Philosophy and who holds the Doctor of Dental Surgery degree from Columbia University may, with the consent of the Dean, offer the work done for the professional degree in lieu of points toward the fulfillment of the residence requirement for the academic degree. For further information see the bulletin of the Graduate School of Arts and Sciences, which can be obtained by writing to the

Graduate School of Arts and Sciences Office of Student Affairs, 106 Low Memorial Library, Columbia University, New York, N.Y. 10027.

Combined Program with the School of Public Health

The School of Dental and Oral Surgery and the School of Public Health offer a joint program leading to the Master of Public Health degree in addition to the D.D.S. degree. Admission to the double degree program requires acceptance first by the School of Dental and Oral Surgery, with subsequent application and admission to the School of Public Health. Each degree is awarded independently when the respective requirements have been met. Students can enter the program at any time during their first two and one-half years and have up to two years after dental school graduation to complete the M.P.H. requirements. The joint program comprises nine academic terms. Tuition for seven of these terms is paid to the School of Dental and Oral Surgery and tuition for the other two terms is payable to the School of Public Health.

This program is designed to graduate students who have the skills of dentistry as well as those of public health. In addition to a foundation in the basic biological sciences and clinical dentistry, students will gain broad insight into the complexities of the evolving health care system in the United States and develop the skills required for them to assume roles as implementers and leaders within that system. Depending on the chosen area of public health concentration, students may develop special competence in epidemiology, biostatistics, health administration, and the sociomedical sciences.

The joint degree program is a major step in the education of interdisciplinary professionals who can be effective as practitioners and interpreters at the interface between dentistry, other health disciplines, and the health system. Graduates of the program are serving currently in administrative posts, the Public Health Service, general practice residencies, specialty residencies, the Armed Services, and private practice.

For further information, consult the Associate Dean for Academic Affairs, School of Dental and Oral Surgery, Columbia University, 630 West 168th Street, New York, N.Y. 10032; telephone (212) 694-3573.

Facilities

The Dental Clinic

The School benefits in many ways through its association with the Medical Center. One of the functions of its clinic is the dental care of patients in the Center hospitals. Students are given a unique opportunity to gain experience in the diagnosis and care of those cases where a relationship exists between oral and general systemic diseases. The student also learns at first hand the problems of providing dental care for the hospitalized patient. The wards and outpatient departments of the Center give close contact and association with all branches of the health services.

The New Dental School Teaching Center

The School of Dental and Oral Surgery has undergone a complete renovation. A modern dental teaching center with expanded facilities for faculty, students, and patients was completed in the autumn of 1977. The new facility permits an increase in

class size and provides totally integrated clinics for use by undergraduate dental students, postdoctoral dental students, and dental hygiene students.

The Library

The Health Sciences Library, housed in the Julius and Armand Hammer Health Sciences Center, provides a modern and efficient environment for study and research. The four floors occupied by the library offer a comfortable atmosphere conducive to study, including such amenities as individual study carrels, group study and conference rooms, typing rooms, and a leisure reading lounge.

With more than 360,000 volumes and a staff of forty, the library is one of the largest medical center libraries in the United States. It is well able to serve the needs of faculty, students, and researchers in the various health science disciplines. More than three thousand periodical titles are currently received. An entire floor of the library has been designated as a media center and is equipped with a variety of audiovisual materials. In addition to traditional reference services, the library offers literature searching on several computerized data bases, including MEDLARS.

Other Columbia libraries, located on the Morningside campus at 116th Street, are open to all students and faculty who carry Columbia identification cards. The central library is Butler Library; special and department collections are housed in other buildings on the campus.

Statement of Nondiscriminatory Policies

The University is required by certain Federal statutes and administrative regulations to publish the following statements:

Consistent with the requirements of Title IX of the Education Amendments of 1972, as amended, and Part 86 of 45 C.F.R., the University does not discriminate on the basis of sex in the conduct or operation of its education programs or activities (including employment therein and admission thereto). Inquiries concerning the application of Title IX and Part 86 of 45 C.F.R. may be referred to Ms. Rosalind S. Fink, the Director of the University's Office of Equal Opportunity and Affirmative Action (305 Low Memorial Library, New York, N.Y. 10027, telephone 212-280-5511), or to the Director, Office for Civil Rights (Region II), 26 Federal Plaza, New York, N.Y. 10007.

Columbia University admits students of any race, color, national and ethnic origin to all the rights, privileges, programs, and activities generally accorded or made available to students at the University. It does not discriminate on the basis of race, color, national and ethnic origin in administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other University-administered programs.

Consistent with the requirements of Section 504 of the Rehabilitation Act of 1973, as amended, and Part 84 of 45 C.F.R., the University does not discriminate on the basis of handicap in admission or access to, or employment in, its programs and activities. Section 503 of the Rehabilitation Act of 1973 requires affirmative action to employ and advance in employment qualified handicapped workers.

The University in addition desires to call attention to other laws and regulations that protect employees, students, and applicants.

Title VI of the Civil Rights Act of 1964, as amended, prohibits discrimination on the basis of race, color, or national origin in programs or activities receiving Federal financial assistance. Title VII of the Civil Rights Act of 1964, as amended, prohibits

employment discrimination because of race, color, religion, sex or national origin. Executive Order 11246, as amended, prohibits discrimination in employment because of race, color, religion, sex or national origin and requires affirmative action to ensure equality of opportunity in all aspects of employment.

The Equal Pay Act of 1963 prohibits discrimination on the basis of sex in rates of pay. The Age Discrimination in Employment Act of 1967, as amended, prohibits discrimination in employment on the basis of age.

The Columbia University Senate on December 1, 1978, passed a resolution announcing its general educational policy on discrimination which reaffirms the University's commitment to nondiscriminatory policies in the above-mentioned categories, as well as its policy not to discriminate on the basis of sexual orientation.

Section 402 of the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, prohibits job discrimination and requires affirmative action to employ and advance in employment qualified special disabled veterans and veterans of the Vietnam era.

All employees, students, and applicants are protected from coercion, intimidation, interference or discrimination for filing a complaint or assisting in an investigation under any of the foregoing policies and laws.

The University's Office of Equal Opportunity and Affirmative Action has also been designated to coordinate the University's compliance activities under each of the programs referred to above. Any employee who believes that he or she has been denied equal opportunity should contact this Office, which will investigate complaints and counsel employees on questions relating to equal opportunity and affirmative action.

Reservation of University Rights

This bulletin is intended for the guidance of persons applying for or considering application for admission to Columbia University and for the guidance of Columbia students and faculty. The bulletin sets forth in general the manner in which the University intends to proceed with respect to the matters set forth herein, but the University reserves the right to depart without notice from the terms of this bulletin. The bulletin is not intended to be and should not be regarded as a contract between the University and any student or other person.



Key to Course Listings

Each course number of the School of Dental and Oral Surgery consists of a capital letter followed by four digits and the term designation.

The *capital letter D* indicates the School of Dental and Oral Surgery.

The level of the course is represented by *the first digit*:

- 3 Dental hygiene undergraduate course
- 5 First-year course for D.D.S. degree candidates
- 6 Second-year course for D.D.S. degree candidates; dental hygiene graduate course
- 7 Third-year course for D.D.S. degree candidates
- 8 Fourth-year course for D.D.S. degree candidates
- 9 Postdoctoral course

Courses in the College of Physicians and Surgeons have three-digit numbers; their suffixes, F and S, designate first- and second-year courses in the College curriculum.

D.D.S. Degree Program

In the D.D.S. degree program, the *second and third digits* indicate the subject area. The letter ^E preceding the course number identifies a course as an elective.

00-04	Interdisciplinary correlation	45-49	Orofacial growth and development
05-09	Preventive dentistry		
10-14	Community health	50-59	Orthodontics
15-19	Dental auxiliary utilization	60-69	Pedodontics
20-29	Endodontics	70-79	Periodontics
30-34	Operative dentistry	80-84	Prosthodontics
35-39	Oral biology	85-89	Behavioral science
40-44	Oral surgery	90-99	Stomatology

Postdoctoral Programs

In the postdoctoral programs, the *second digit* indicates the course category:

0	Interdisciplinary correlation	7	Periodontics
2	Endodontics	9	Dental science (core and interdepartmental courses)
5	Orthodontics		
6	Pedodontics		

Dental Hygiene Programs

In Program A, the subject area is indicated by *the second digit*:

0	Basic science	3	Public health
1	Dental science	4	Clinical dental hygiene
2	Education		

In Program B, the subject area is indicated by *the second and third digits*:

52 Dental science

56 Public health

54 Education

58 Clinical dental hygiene

Points of Course Credit: The number of points of credit that a course carries is given in boldface type in the right margin of the course-title line.

The letter ^R preceding the course number indicates that a course is required.

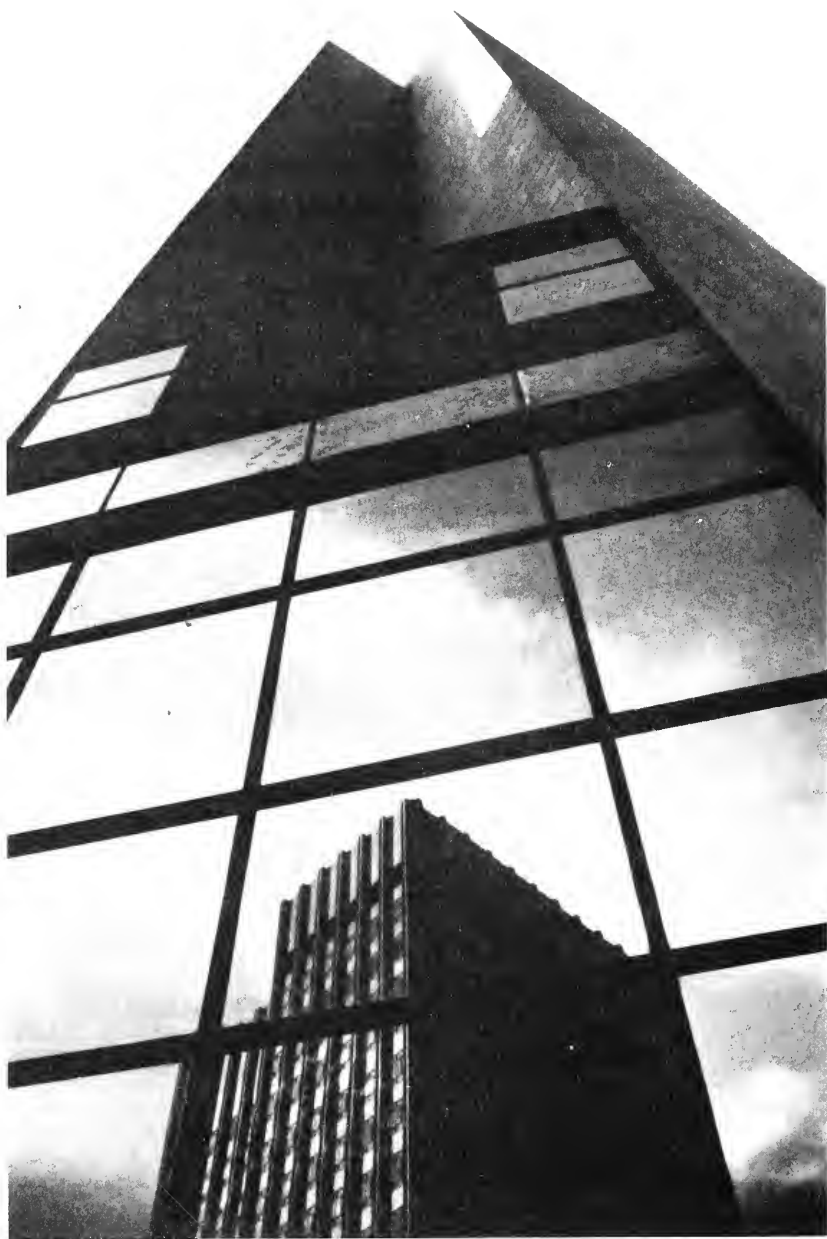
Term Designations: X, Y, Z

An x following the course number indicates the course meets in the autumn term; a y indicates the spring term; and a z indicates the summer session.

Courses for Audit

The letter ^A preceding the course number indicates that a course is available for audit as described in *Programs of Study—Continuing Education*, above.



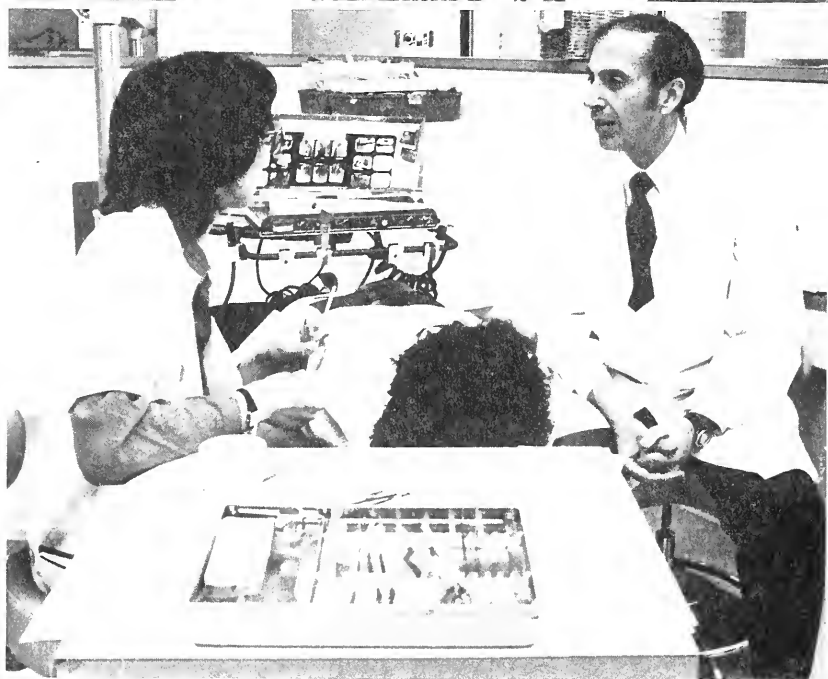


The D.D.S. Program

Admission Requirements

Summary of the D.D.S. Program

Courses of Instruction



Admission Requirements

Candidates may apply after July 1 during the academic year preceding that for which they seek admission; the deadline for receipt of applications is December 31. Application is made through the American Association of Dental Schools Application Service (AADSAS). Application forms for this service can be obtained from the Office of Admissions, from any other participating dental school, or directly from AADSAS, 1625 Massachusetts Avenue N.W., Washington, D.C. 20036; telephone toll-free: (800) 424-2474.

Upon request by the Admissions Office, the applicant must send a check or money order for \$35, made payable to Columbia University, directly to the School of Dental and Oral Surgery. This fee, which covers the cost of processing the application, is required of all prospective students. Those wishing to be considered for a fee waiver should consult with the Office of Admissions and must supply the information necessary to support the waiver request. An application for admission will not be considered until the fee has been paid or until it has been waived by formal action of the admissions authorities of the School. The fee is not refundable and is not credited toward tuition.

Required preparation: the bachelor's degree from an accredited American institution or its equivalent including the following courses (8 points of each): English composition and literature, physics, biology, inorganic chemistry, and organic chemistry. It is not necessary to complete the academic requirements before applying, but all requirements must be completed before registration. Students are discouraged from applying if they will only have three years of college, as preference is given to applicants with bachelor's degrees.

Recommended preparation: additional courses in chemistry, advanced courses in biology, courses in mathematics, foreign languages, sociology, history, and the fine and industrial arts. The admission of a student depends primarily on preparation and intellectual capacity, but it also depends upon judgments of the student's character.

Interviews: A personal interview is required for admission. Because of the large number of applicants, the interview is by invitation only from the Committee on Admissions. Candidates who are chosen for an interview will be notified by mail, and those applicants living on the West Coast will have the option of being interviewed in California. Further instructions will be given to those candidates by the Office of Admissions.

Dental Aptitude Tests: All applicants must take the Dental Aptitude Tests, which are conducted by the Council on Dental Education at various testing centers throughout the United States and Canada, no later than October of the year during which application is made. For further information, apply directly to the Division of Educational Measurements, Council on Dental Education of the American Dental Association, 211 East Chicago Avenue, Chicago, Ill. 60611.

Acceptance Fee: After receiving notice of acceptance, the applicant must notify the Committee on Admissions that he or she intends to enroll according to instructions specified in the letter of acceptance. The acceptance fee of \$500 is applied to the

applicant's tuition upon registration in the class to which he or she has been admitted. If the applicant does not register in that class, the acceptance fee will be retained by the University.

Combined Programs

With Barnard College. Under the "professional option" plan, selected students from Barnard College may receive the Bachelor of Arts degree from Barnard after the completion of three years of undergraduate work at Barnard and the first year in the School of Dental and Oral Surgery. To be eligible for this program, before entering the School the student must have completed 90 points of academic work at Barnard College and all of the prerequisite courses for the dental school. To be eligible for the Bachelor of Arts degree, she must have completed 120 points, 30 of which may be earned at the dental school, and she must have completed all of the general and major requirements of Barnard College.

With the School of General Studies. A limited number of highly qualified students may participate in a professional option program with the School of General Studies that reduces the usual time of study for the D.D.S. degree from eight to seven years. Professional option may be exercised after the completion of 94 points (including all courses prescribed for the Bachelor of Science degree), not less than 64 of which must have been taken at Columbia University. The aim of this joint program is to offer a course of study by which students may reduce the time of preprofessional and professional preparation for dentistry as a means of providing earlier access to practice opportunities or postgraduate training.

Each year the School of General Studies nominates a small number of promising students who are in their first year of preprofessional study. Admission to the program and contingent early acceptance into the dental school is based on the applicant's motivation to enter the field of dentistry, scholastic ability, and personal attributes. Early identification of candidates permits assignment to summer work-study programs in laboratories of the School of Dental and Oral Surgery and elsewhere on the Health Sciences campus. Part of the work-study experience consists of preprofessional tutorials with selected faculty members as preparation for basic biological sciences and provides the student with an introduction to techniques of scientific problem solving. Final acceptance into the School of Dental and Oral Surgery is conditional upon satisfactory completion of a minimum of two years with the School of General Studies under the professional option, including all courses that are prerequisite to the study of dentistry as well as satisfactory performance on the DAT. For further information students should consult with the School of General Studies, Office of Admissions, 509 Lewisohn Hall on the Morningside campus.

In addition, the School of Dental and Oral Surgery also considers applications from highly motivated adult undergraduates in the School of General Studies who have completed at least 60 points toward the bachelor's degree including all courses that are required as prerequisite to the study of dentistry (see page 19). Under this arrangement, students transfer to the School of Dental and Oral Surgery after the end of the second year in the School of General Studies. Opportunities for continuing candidacy for the bachelor's degree from the School of General Studies are possible by arranging a special program that will satisfy the bachelor's degree requirements (see above).

Admission with Advanced Standing

Applications for admission with advanced standing are accepted whenever vacancies exist in the third-year class. Only those applicants who have successfully completed two years of study in an accredited dental school and who have passed Part I of the National Dental Board examinations are considered. Graduates of foreign dental schools who hold dental degrees equivalent to the D.D.S. or D.M.D. degree may be considered for admission on an *ad hoc* basis. Evidence of having passed Part I and Part II of the National Boards Examination is required. A passing grade on the Test of English as a Foreign Language (TOEFL) is also required. TOEFL applications and information may be obtained by writing: Test of English as a Foreign Language, Box 899, Princeton, N.J. 08541.



Summary of the D.D.S. Program

Because of revisions in curriculum, the following outline reflects the tentative program for the years 1983-1985.

First Year

Anatomy 101F, 102F, 103F
Behavioral science D5851
Biochemistry 101F
Interdisciplinary correlation D5002
Microbiology 101F

Nutrition 101F
Orofacial development D5450-D5451
Pathology 101F
Physiology 101F

Second Year

Behavioral science D6851
Community health D6101
Endodontics D6201
Interdisciplinary correlation D6010
Neural science 106S
Operative dentistry D6300-D6301
Oral biology D6350, D6352
Oral and maxillofacial surgery D6401, D6402
Orofacial development D6361, D6452, D6453, D6454

Orthodontics D6501
Pathology 102S, D6371-D6372
Pedodontics D6651
Periodontics D6701
Pharmacology 101S
Preventive dentistry D6051, D6052, D6830
Prosthodontics D6800-D6801
Radiology D6902

Third Year

Behavioral science D7851
Community health D7101, D7102
Dental auxiliary utilization D7150-D7151
Endodontics D7201-D7202
Operative dentistry D7301-D7302
Oral and maxillofacial surgery D7351, D7401-D7402, D7411, *D7421
Orthodontics D7501-D7502

Pedodontics D7651-D7652
Periodontics D7701-D7702
Preventive dentistry D7051-D7052
Prosthodontics D7801-D7802, D7830
Radiology D7931
Stomatology D7361, D7902, D7911-D7912, D7921, D7941-D7942, D7943

Fourth Year

Community health ^ED8111-D8112, *D8121
*Dental auxiliary utilization D8135-D8136, D8151-D8152

Endodontics D8201-D8202, ^ED8211-D8212
^EInterdisciplinary correlation D8001-D8002

*Not required of students in areas of concentration.

Operative dentistry D8301-D8302
 *Oral and maxillofacial surgery D8401
 *Orofacial development
 D8461-D8462
^EOrthodontics D8511-D8512
 Pedodontics D8451-D8452,
^ED8661-D8662
 Periodontics D8701-D8702,
^ED8711-D8712

Preventive dentistry D8051-D8052,
^ED8061-D8062
 Prosthodontics D8801-D8802,
^ED8810-D8811, D8830
 Stomatology D8361-D8362,
 *D8902 (same course
 as D7902)

Areas of Concentration

Programs are available to qualified fourth-year students in the following areas: biological sciences, endodontics, orofacial development, orthodontics, pedodontics, periodontics, prosthodontics, and public health. Programs in orthodontics, pedodontics, and prosthodontics are described below; the other programs are individually arranged.

Orthodontics

This is essentially the same as the first-year postdoctoral program in orthodontics and is open to one or two students a year as determined by the Third Year Class Committee and the Division of Orthodontics. Instruction in the basic and applied sciences, in related medical subjects, and in the theory and practice of orthodontics is provided by lectures, seminars, laboratory exercises, and clinical practice. Emphasis is on diagnostic procedures and treatment planning and the application of clinical methods best designed to meet the treatment objectives for the individual patient.

Instruction includes the theory and methodology of treatment with various appliances: removable, labiolingual, twin-wire, extraoral forces, edgewise, and the Begg Appliance. The purchase of a kit of instruments and supplies costing approximately \$1,500 is required.

The program is structured as follows:

1. At the beginning of the student's fourth year, the student temporarily discontinues the predoctoral program for the period September through December and attends a number of graduate level courses in the orthodontics program on a full-time basis.
2. Beginning in January, the student resumes the predoctoral program, which has provision for one day of elective time. This elective time is spent taking courses in the postdoctoral orthodontics program.
3. The predoctoral graduation date (that is, the receipt of the D.D.S. degree) depends upon the student's progress. It may be the normal graduation date, or it may be delayed until the satisfactory completion of all predoctoral requirements.
4. Upon successful completion of the predoctoral program and the graduate courses taken, the student enters the postdoctoral orthodontics program with advanced standing and remains in attendance until all postdoctoral requirements are completed (usually one full calendar year). A written thesis based upon original research under the direction of members of the staff is required. A Certificate of Training in Orthodontics is awarded upon completion. This qualifies the student for

*Not required of students in areas of concentration.

membership in the American Association of Orthodontists and to take the certification examination of the American Board of Orthodontics.

Pedodontics

The Division of Pedodontics offers a special area of concentration program during the fourth year. This program begins with an "expanded elective" during the first term for students with an excellent third-year performance. At the end of the first term, students who continue to perform with excellence are considered for early graduation by the Class Committee. If approved, students then begin full-time activities as postdoctoral students in the Division of Pedodontics at the beginning of the second term. One remaining half-day a week in the second term is devoted to activities in general dentistry. Upon satisfactory completion of this special program, the student is eligible to enter the second and final year of the pedodontics postdoctoral training program. The program is approved by the Council on Accreditation and makes the graduate eligible for American Academy of Pedodontics membership and for taking the American Board of Pedodontics Examination. The second year is somewhat modified in length to meet minimum time requirements for such a program.

The didactic components of the program include pediatric medicine, preventive techniques, developmental psychology, nutrition, postdoctoral pedodontic clinical seminars, interceptive orthodontics, growth and development, and hospital dentistry protocol.

The clinical portion includes dentistry for handicapped children and adults; special management techniques, including per oral sedation, nitrous oxide, I.V. and I.M. management, extensive caries control techniques, pulpal therapies, the treatment of abnormalities of occlusion, the identification and treatment of dental developmental disorders, an anesthesiology rotation, and pediatric emergency room exposure.

Prosthodontics

In this program, selected students spend 80 percent of their fourth year in prosthodontics. Selected core graduate courses are taken in addition to participation in lectures and seminars in prosthodontics. Clinical experience is directed toward in-depth knowledge of periodontal-prosthetic problems. Emphasis is placed on an interdisciplinary approach of prosthodontics with periodontics, endodontics, and orthodontics. Wherever possible, the student is expected to carry out a research project in some aspect of prosthodontics.

Required Summer Clinics

These sessions are held in June and July.

Courses of Instruction

In the following course listings where the name of the subject or area of studies does not appear before the course number it is understood to be the same as the heading preceding each group of courses.

The University reserves the right to withdraw or modify the courses of instruction or to change instructors as may be necessary.

Anatomy

101F. Microscopic anatomy

Professor Nunez and staff. First year.

Lectures, conferences, and laboratory dealing with the analysis of biological structure necessary for understanding the function of cells, tissues, and organs.

102F-102S. Human anatomy

Professor Moss and staff. First year.

Individual regional dissections of the body, augmented by lectures stressing functional interpretations. Lectures correlate developmental anatomy with gross anatomy.

103F. Human development

Professor Pfenninger and staff. First year.

Lectures on selected topics in human developmental biology.

Anatomy-Physiology 106F. Neural science

Professors Kandel, Kelly, K. Weiss, Kupferman, Rowland, and Schwartz. Second year.

An interdisciplinary course designed to provide an integrated background in anatomy, behavior, biochemistry, and physiology of the nervous system.

Behavioral Science

D5851x. Human behavior

Professors Wotman, Jewett, and J. Weiss, and staff. First year.

Small group seminars utilizing common experiences to examine basic aspects of normal human behavior.

D6851y. Human behavior

Professors Wotman, Jewett, and J. Weiss, and staff. Second year.

Small group seminars utilizing common experiences to examine dentist-patient relationships in the school and in a practice environment. Students have a choice of unstructured or structured reading or case discussions.

Biochemistry

101F. Introductory biochemistry

The staff. First year.

A survey of the chemical constituents of the mammalian cell and their metabolic activities; energy production in the cell, and its role in the synthesis of biological macromolecules; biosynthesis of nucleic acids and proteins; regulation of nucleic acid and protein synthesis.



Community Health

D6101x. Epidemiology

The staff. Second year.

Lectures and seminars in epidemiology and its role in disease prevention and community health. Major focus on dental and oral disease.

^AD7101y. Health care delivery systems and dental practice

The staff. Third year.

Lectures in organization and financing of health care. Overview of public and private sectors of dental care, with emphasis on third-party insurance, group practice models, peer review and PSRO, manpower, legislation, and projected programs.

D7102y. Community health rotation

Professor B. Tolpin and A. Wilson. Third year.

Students are required to spend one-half day each term in the field providing dental and oral screenings and health education programs.

^ED8111x-D8112y. Public health community dentistry elective

The staff. Fourth year.

Students assigned to various extramural health centers, hospitals, and institutions to provide care, to identify with various types of health care delivery systems, and to increase their social sensitivity to various communities and population groups. Tutorial seminars for selected students from the School of Public Health, and for students enrolled in the D.D.S./M.P.H. program, the M.S. degree program in the Division of Dental Hygiene, and fourth-year dental students.

^AD8121y. Ethics, jurisprudence, and forensic dentistry

The staff. Fourth year.

An overview of the laws and regulations governing dental practice, professional responsibility, controls, practice agreements, and the role of forensic dentistry in modern dental practice.

Dental Auxiliary Utilization

D7150x-D7151y. D.A.U.

Professor D. Kaplan and staff. Third year.

Lectures, demonstrations, and clinical experience in four-handed, sit-down dental service delivery; the effective utilization of chairside dental assistants; patient and dental team positioning; sequential instrumentation; equipment and space criteria.

D8135x-D8136y. Advanced practice management elective
Professors Kaplan and Diamond, Dr. Williams, and staff.

Seminars on management principles with application to a wide variety of dental practice modes. Site visits to selected dental facilities illustrating management concepts, styles, and practical operations. Emphasis is on systems analysis and development of personal practice plans.

D8151x-D8152y. Introduction to dental practice management
Professors Kadish and Kaplan. Fourth year.

Lectures and discussions examining the elements, selection criteria, and entry requirements of the various dental practice modes, self-employed or salaried. Exploration of planning techniques with economic strategies for establishing, managing, and building a dental practice.

Endodontics

D6201y. Endodontics theory and technique
Professors Moreinis and Cantor, and staff. Second year.

Lectures and seminars on the fundamentals of endodontics. Demonstrations and exercises in endodontic technique on extracted teeth.

D7201x-D7202y. Basic clinical endodontics
Professor Moreinis and staff. Third year.

Demonstrations and clinical experience in the practice of endodontics.

D8201x-D8202y. Advanced clinical practice
Professor Moreinis and staff. Fourth year.

Lectures and clinical experience in advanced problems in endodontic theory and technique.

^ED8211x-D8212y. Endodontics elective
Professor Greenfield and staff. Fourth year.

Seminars, demonstrations, and clinical experience in advanced endodontic theory and technique.

Interdisciplinary Correlation

D5002y. Introduction to dentistry
Professor Rosenblum and staff. First year.

Lectures, demonstrations, clinical observation, and experience designed to define the scope of dentistry early in the career of the dental student. Correlation between the preclinical and clinical disciplines is an integral part of the course content.

D6010y. Introduction to clinical practice
Professors R. Goldman, Scrivani, and Uccellani. Second year.

Introductory seminars preparing the student for clinical experience.

^ED8001x-D8002y. Individualized elective
The staff. Fourth year.

An elective program designed to meet the needs of the student in an area appropriate to his or her educational goals as arranged by the Third Year Class Committee.

Microbiology

101F. General medical and dental microbiology
The staff. First year.

Conferences.

Nutrition

101F. Introduction to nutrition

Professor Winick and staff. First year.

Lectures covering nutrient deficiencies, nutrient excess, nutrition during special periods of life, and foods in general and therapeutic diets.

Operative Dentistry

D6300x-D6301y. Introductory operative dentistry

Professors Cain, Brzustowicz, and Pandolfo, and staff. Second year.

Lectures and laboratory exercises on the fundamentals of operative dentistry, including the etiology of dental caries and the biological approach to the technical procedures in the restoration of teeth. Periods of clinical observation are an integral part of the course.

D7301x-D7302y. Operative clinical practice

Professors Cain, Brzustowicz, S. S. Scrivani, and Boyd, and staff. Third year.

Introduction to the clinical practice of operative dentistry. Lectures, demonstrations, and clinical experience in the recognition of disease and related conditions. Prevention, treatment planning, and restoration to form and function on a comprehensive care basis.

D8301x-D8302y. Advanced clinical practice

Professors Cain, Boyd, Brzustowicz, and S. S. Scrivani, and staff. Fourth year.

A continuation of *Operative Dentistry D7301-D7302*, with the addition of seminars in the special problems of operative dentistry, with emphasis on total patient care, and preparation for clinical board examinations.

Oral Biology

D6350x. Cariology

Professors Ellison and I. Mandel. Second year.

Lectures and seminars on dental caries. Survey of the literature dealing with the anatomical, biochemical, and microbiological aspects of dental caries. Emphasis is placed upon current investigations.

^AD6352y. Biology of the oral tissues

Professor Ellison and guests. Second year.

Lectures and seminars supplementing the more general information of the basic science courses with specific material related to dentistry. Such topics as taste, bone metabolism and calcification, oral and pulpal microcirculation, and microbiology related to periodontal disease are considered.

Oral and Maxillofacial Surgery

D6401x. Pain control

Professor Solomon. Second year.

Lectures on the understanding of pain and its control by means of local anesthesia. Emphasis is placed upon the anatomy, physiology, and pharmacology of local anesthesia.

D6402y. Introduction to oral and maxillofacial surgery**Professors Baurmash, L. Mandel, Minervini, and Roser. Second year.**

Lectures and clinical experience to prepare students for basic oral surgery procedures. The armamentarium, techniques, and complications of exodontia are stressed.

D7351y. Functional anatomy of the head and neck**Professor Loscalzo. Third year.**

Lectures on the role of anatomic relationships in the rendering of dental care.

D7401x-D7402y. Basic oral surgery**Professors L. Mandel, Minervini, Loscalzo, Baurmash, and Roser. Third year.**

Lectures and clinical experience in operative procedures other than exodontia that would be performed in an ambulatory oral surgery setting.

D7411x. Pain control**Professor Solomon. Third year.**

Lectures, demonstrations, and practical application of pain control utilizing various modalities of sedation, analgesia, and general anesthesia.

D7421y. Summer externship elective**Professor L. Mandel. Third year.**

Externships of varying length are offered on a voluntary basis during the summer at selected metropolitan hospitals. The student has the opportunity to become involved with all aspects of dentistry as delivered in a hospital environment.

D8415x-D8416y. Oral and maxillofacial surgery elective**Professors L. Mandel, Minervini, Roser, and staff. Fourth year.**

Elective course for a limited number of students. An integrated program of advanced clinical and didactic training and experience in oral surgery. Students rotate through the School's oral surgery clinic and the oral surgery services of selected metropolitan hospitals. Seminars in otolaryngology, salivary gland diseases, and the temporomandibular joint.

D8401y. Extramural clinical clerkship**Professor Minervini. Fourth year.**

Six-week assignment of students to remote site delivery settings, i.e., metropolitan hospitals, to increase the student's consciousness of dental manpower needs and opportunities in underserved communities and population groups. To provide an effective clinical experience in the general practice of dentistry at a facility other than the formal school surroundings.

Orofacial Development

D5450x-D5451y. Oral anatomy and occlusion**Professors Fink and Horowitz, and staff. First year.**

Lectures and laboratory sessions in oral anatomy, dental morphology, phylogeny of the dentition, and dental occlusion.

D6361x. Oral microscopic anatomy and embryology**Professor Moss-Salentijn and staff. Second year.**

Lectures, conferences, and laboratory on the detailed microscopic anatomy and development of the dental and associated orofacial structures.

D6452x. Orofacial growth and development**Professor Horowitz. Second year.**

Lectures in patterns of human development, with emphasis on facial growth, the timing and sequence of eruption, phylogeny of the dentition, and the development of dental occlusion.

D6453x. Human genetics in dentistry**The staff. Second year.**

Lectures designed to familiarize the student with principles of Mendelian heredity, cell division, inborn errors of metabolism, chromosomal anomalies, and the genetics of orofacial syndromes.

D6454x. Statistics**The staff. Second year.**

Lectures and programmed instruction in basic biostatistics, including measures of central tendency, regression, correlation, Chi-Square, and comparison of samples.

D8461x-D8462y. Orofacial development elective**Professor Horowitz and staff. Fourth year.**

An individualized study program in human development, with special emphasis on the dentofacial complex. Current activities of the Division provide an opportunity for experience in several areas including research design, research projects related to genetic factors in craniofacial deformities and disease, practical application of statistical analytic techniques, clinical observation of various craniofacial birth defect syndromes, and investigation of dental needs in the elderly population.

Orthodontics

D6501y-D7501x-D7502y. Principles of orthodontics**Professor Di Salvo and staff. Second and third years.**

Lectures, seminars, laboratory, and clinic. Orthodontic fundamentals, with special emphasis on prevention and interception of malocclusion by the early recognition and correction of the predisposing factors. Appliances used in preventive, interceptive, and minor corrective orthodontic procedures are constructed in the laboratory and used in the clinic.

^ED8511x-D8512y. Orthodontic elective**Professor Di Salvo and staff. Fourth year.**

Seminars and clinic participation. A more detailed exposure to the etiology, diagnosis, case analysis, treatment planning, and clinical management of problems of malocclusion.

Pathology

101F. General pathology**Professors King and J. Fenoglio, and staff. First year.**

The same course as that given to medical students, including lectures and laboratories emphasizing the mechanisms of injury and repair in cells, tissues, and organ systems.

102S. Systemic pathology**Professors King and J. Fenoglio, and staff. Second year.**

The same course as that given to medical students, including lectures, seminars, and laboratory exercises using clinical case material, gross specimens, and light microscopic studies to elucidate the pathogenesis of findings in disease.

D6371x-D6372y. Oral pathology
Professor Blake and staff. Second year.

Lectures, demonstrations, conferences, and laboratory work on diseases of the oral cavity and contiguous structures including the jaws, teeth, and soft tissues. Emphasis on clinical manifestations and histopathology of the various diseases.

Pedodontics

D6651y. Fundamentals of pedodontics and preventive dentistry
Professor Davis and staff. Second year.

Lectures on morphology and chronology of the primary and mixed dentition, cavity preparation, pulp therapy, stainless-steel crown preparation, and other related clinical procedures. The preclinical laboratory involves basic pedodontic operative techniques on primary and young permanent teeth and the handling of various restorative materials, including amalgam and composite adhesive systems. At the end of the course the student is prepared to begin clinical pedodontics.

D7651x-D7652y. Theory of pedodontics
Professor Davis and staff. Third year.

Lectures and seminars on diagnosis and treatment planning for the primary and mixed dentition. Emphasis is placed on consideration of the entire child from psychological, medical, and oral health perspectives. Emphasis is placed on appropriate preventive measures, patient management, care of trauma, adhesive restorative techniques, space maintenance, and interceptive and preventive orthodontic procedures for children and adolescents. The clinical phase of the course meets once weekly and concentrates on the application of the preceding principles.

D8451x-D8452y. Treatment of the handicapped program
The staff. Fourth year.

Lectures and clinical experience in treating patients who have various types of handicapping conditions.

^ED8661x-D8662y. Pedodontic elective
The staff. Fourth year.

Serves to expand the experience of the third-year pedodontics course with more complex management and treatment planning cases. Experience with the handicapped child and with special management aids such as nitrous oxide and other forms of sedation is provided. Occasional case discussion seminars and involvement with the postgraduate guest lecture series. One or two (preferred) half days.

Periodontics

D6701y. Lectures and clinic
Professors Gottsegen, Kamen, and Schwartz, and staff. Second year.

Lectures and seminars in the diagnosis, etiology, and treatment of periodontal diseases. Clinical practice in examination and documentation of clinical findings in the periodontal patient; prophylaxis, subgingival scaling and root planing; teaching and motivating patients to perform personal oral hygiene. The fundamentals of preventive periodontics are covered.

D7701x-D7702y. Clinical practice of periodontics
Professors Gottsegen and Schwartz, and staff. Third year.

Lectures and seminars on periodontal surgery, occlusal traumatism, occlusal adjustment, specific periodontal diseases and infections, systemic background factors and interrelationships, methods of temporary stabilization of teeth, introduction to treatment planning, and case presentation both in seminar and clinic. Clinical practice in subgingival curettage, simple surgical techniques, occlusal adjustment by selective grinding, and temporary stabilization.

D8701x-D8702y. Advanced periodontics**Professors Gottsegen and Schwartz, and staff. Fourth year.**

Prosthodontics area of concentration students take one-half day per week, each term. Clinical experience is a continuation of *Periodontics D7702*. Lectures and seminars tracing the historical development of treatment methods, advanced surgical techniques, special therapeutic problems, fixed and permanent splinting and restorative dentistry for the periodontally involved dentition. A review of periodontal histopathology and physiology related to clinical experience; treatment planning, case management, and case presentation. Emphasis on the clinical management of more complex cases than in the third year.

^ED8711x-D8712y. Periodontics elective**Professors Gottsegen and Lubarr, and staff. Fourth year.**

One seminar and choice of one or two clinic sessions a week. Students participate in seminars with subject material researched through literature review and critical analysis. Clinical experience is directed toward enlarging and enhancing the usual four-year periodontics program through the assignment of difficult and complex cases of diagnosis, treatment planning, and therapeutic management. Opportunity and encouragement given for research.

Pharmacology

102S. General and special pharmacology**Professor Kahn and staff. Second year.**

A rigorous course which features lectures, laboratories, and discussions dealing with traditional drugs used in dental and medical practice, as well as newer agents. A thorough understanding of the material presented in this course will add interest to the student's future dental practice and will help the student to render a more effective service to patients.

Physiology

Anatomy-Physiology 106F. Neural science**Professors Kandel, Kelly, K. Weiss, Kupfermann, Rowland, and Schwartz. Second year.**

An interdisciplinary course designed to provide an integrated background in anatomy, behavior, biochemistry, and physiology of the nervous system.

101F. Human physiology**Professor Nocenti and staff. First year.**

Lectures, conferences, demonstrations, and laboratory. The function of the various organ systems of the mammalian body and their interrelations.

Preventive Dentistry

D6051x. Scope of preventive dentistry**Professor I. D. Mandel and staff. Second year.**

Lectures and seminars on etiology, histopathology, measurement, and prevention of the plaque diseases—caries and periodontal disease, and on interrelationships between prevention and all areas of dentistry.

D6052y. Techniques of preventive dentistry**Professor Stuchell and Ms. M. Sadles, and staff. Second year.**

Lectures, seminars, and clinical exercises on the procedures of preventive dentistry.

D7051x-D7052y. Practice of clinical preventive dentistry**Professor Stuchell and staff. Third year.**

Clinical training in the procedures of preventive dentistry, with emphasis on the plaque diseases.

D8051x-D8052y. Practice of clinical preventive dentistry**Professor Stuchell and staff. Fourth year.**

Integrating preventive dentistry into total patient care.

^ED8061x-D8062y. Preventive dentistry research elective**Professor I. D. Mandel and staff. Fourth year.**

Seminars and research project.

Prosthodontics

D6800x-D6801y. Preclinical prosthodontics**Professors Vero and Tepper, and staff. Second year.**

Lectures, demonstrations, and audiovisual aids on the theory and procedures in the design and fabrication of fixed, removable, and complete prostheses. In preparation for the clinical performance of prosthodontics, as many procedures as possible are simulated by the students on models in the laboratory.

D6830x. Dental materials, I**Professor Rosenblum. Second year.**

A lecture series concerning the manipulation, chemical composition, and handling properties of all materials used in the preclinical courses of the Operative and Prosthodontics divisions.

D7801x-D7802y. Core clinical prosthodontics**Professor Lucca and staff. Third year.**

Lectures, demonstrations, and clinical experience in the biological principles and practice of the more simple prostheses in all phases of prosthodontics—fixed and removable. In the latter part of the year, lectures are given by staff and guest lecturers on different concepts of occlusion and other schools of thought on various aspects of prosthodontics including maxillofacial prosthesis and implant procedures.

D7830x. Dental materials, II**Professor Rosenblum. Third year.**

A lecture series covering the important physical properties of dental materials, and the effect of improper manipulation on those physical properties.

D8801x-D8802y. Advanced prosthodontics**Professor Lucca and staff. Fourth year.**

Advanced clinical experience in the biologic principles and practice of fixed and removable prosthesis. Wherever possible, small seminars are conducted utilizing student cases for presentation and learning experiences.

^ED8810x-D8811y. Prosthodontic electives**Professors Goldin, Scarola, Freeman, Bacharach, Epstein, Jackier, and Abelson, and staff. Fourth year.**

Lectures, demonstrations, seminars, and clinical experience in cases presenting unusually diverse clinical problems. Emphasis on developing skills with techniques which are not emphasized in the general prosthodontic courses. Several electives are offered each year emphasizing different aspects of prosthodontic care. Wherever possible, the student is expected to carry out a research project in some aspect of prosthodontics.

D8830x. Dental materials, III**Professor Rosenblum. Fourth year.**

A lecture series dealing with new developments in dental materials and the interpretation of new product literature as an aid to selecting new dental products for clinical use.

Prosthodontics Area of Concentration

For a general description of the program, see *Summary of the D.D.S. Program—Areas of Concentration*. New courses in prosthodontics are described below. In addition, core courses are selected from the following, described in full under the appropriate designation: *Dental Science D9908—Clinical stomatology conferences, D9915—Psychiatry and psychosomatic medicine, and their interrelationships with dentistry; Operative Dentistry D8301-D8302—Advanced clinical practice; Oral Surgery D8401—Extramural clinical clerkship; Periodontics D8701-D8702—Advanced periodontics, D9723—Treatment planning in periodontics, D9726—Occlusion, function of the jaws and temporomandibular joint, with special reference to periodontics; Preventive Dentistry D8051-D8052—Practice of clinical preventive dentistry; Prosthodontics D8810—Prosthodontic elective, and D8830—Dental materials, III.*

D8835y. Effects of restorative materials and procedures on dental pulp **Professors Grayson and Kim. Fourth Year.**

Several lectures on circulation in the pulp and results of research carried out at School of Dental and Oral Surgery. Review of literature on this subject is covered in seminar form.

D8840x-D8841y. Prosthodontic concentration clinic **Professor Grayson and staff. Fourth year.**

Faculty members and students are on a one to three basis for the 21 hours per week spent in this clinic throughout the year. Chairside treatment planning and treatment of extensive complicated periodontal-prosthodontic cases is the basic emphasis of this clinic. Each student has the opportunity of reviewing all other cases being treated.

D8842x-D8843y. Prosthodontic literature review **Professor Grayson. Fourth year.**

Selected articles in all phases of fixed prosthodontics are reviewed and discussed in seminar.

D8844x-D8845y. Overview of periodontics for the prosthodontist **Professor Winter. Fourth year.**

Weekly lecture and seminar covering periodontics, from the preparation of the mouth and surgical procedure to follow up and home care.

D8846x-D8847y. Prosthodontic minor tooth movement **Professor Gieger. Fourth year.**

Seminar on practical application of orthodontics to reconstruction procedures.

D8850x-D8851y. Prosthodontic-periodontal treatment planning seminar **Professor Widrow.**

Each case is presented by both disciplines and discussed in detail from both perspectives.

D8860x-D8861y. Occlusion in the practice of prosthodontic dentistry **Professor Grayson. Fourth year.**

Seminar sessions are divided for discussion of various occlusal concepts. Selected articles are presented by the student and the group discusses the concepts.

Radiology

D6902y. Dental radiology **The dental radiology staff. Second year.**

Lectures on the pertinent basic concepts of dental radiology and their applications in clinical practice. Introduction to radiographic techniques and the fundamentals of radiation safety. Exercises in dental radiographic interpretation.

D7931y. Dental radiology clinic**The dental radiology staff. Third year.**

Clinical practice in intraoral and extraoral radiography. Demonstrations of selected extraoral techniques.

Stomatology

D7902y. Clinical stomatology conferences**Professor D. J. Zegarelli and stomatology staff. Third year.**

These weekly conferences consist of the presentation of case histories having interesting and diagnostically challenging diseases of the mouth and jaws. The diagnosis and treatment of each case are discussed by and with the audience, the latter including undergraduate dental students, dental hygiene students, postgraduate students, residents, practitioners, and faculty. *Weekly one-hour conferences (16).*

D7911x-D7912y. Clinical oral pathology and oral diagnosis clinic**Professor D. J. Zegarelli and staff. Third year.**

Lectures on diagnostic methods and techniques, diseases of the jaws, and diseases of the soft tissues. Clinical experience in mouth examination, history taking, diagnosis of soft and hard tissue diseases, and treatment planning.

D7913y. Facial pain**Professor Marbach and staff. Third year.**

Lectures and clinical demonstrations on the diagnosis and treatment of diseases and disorders associated with non-odontogenic pain. Discussion of basic pain mechanisms.

D7921y. Clinical cancer training**Professor Kutscher and staff. Third year.**

Lectures and clinical experience in the diagnosis and treatment of tumors of the head, face, and neck. The student is rotated for one week through the otolaryngology, radiotherapy, combined tumor, and maxillofacial prosthesis clinics. Psychosocial issues are emphasized.

^AD7941x-D7942y. General survey of medicine**Professor M. Marder and Presbyterian Hospital staff. Third year.**

The important aspects of internal medicine, with reference to fundamentals as well as to recent diagnostic and therapeutic advances. Particular emphasis on overall medical problems and their implications for dentistry.

D7943x. Oral medicine**Professor M. Marder and staff. Third year.**

Lectures on the management and treatment of selected diseases of the mouth and jaws, including choice of drugs, models of administration, contraindications, and side reactions. The systemic implications of orodental therapy, the dental management of systemically ill patients, and other medicodental relationships are emphasized.

^ED8902y. Clinical stomatology conferences**Fourth year.**

The same course as *Stomatology D7902*.

^ED8961x-D8962y. Facial pain elective**Professor Marbach. Fourth year.**

Individual training in the diagnosis and treatment of facial pain and TMJ disorders, with clinical supervision.



Postdoctoral Programs in Dental Specialties

Admission Requirements

Summary of Programs

Courses of Instruction

Fellowship and Postdoctoral
Programs in Basic Sciences



Admission Requirements

To be admitted to any program, an applicant must be licensed to practice dentistry. Foreign students may be required to demonstrate sufficient knowledge of English and to pass a clinical competence examination. It is required that all students who have received their dental education at schools outside of the U.S.A., Canada, and England submit scores of achievement in the "Test of English as a Foreign Language" (TOEFL) examination as a part of their application.

When to apply: before December 1, for admission in the following September. The Postdoctoral Admissions Committee gives preference to applicants who present evidence of one of the following qualifications: (a) two years of experience in dental practice (service as a dental officer in the federal services fulfills this qualification), (b) completion of an internship of twelve months or more, or (c) completion of at least twelve months of university graduate or postgraduate work in dentistry, a basic science, or an allied field.

Admission procedure: use the application form attached to this bulletin or write to the Postdoctoral Admissions Office, School of Dental and Oral Surgery, 630 West 168th Street, New York, N.Y. 10032, for an application form, which must be completed and returned. The completed form should be accompanied by the application fee of \$35. This fee is required of all prospective students. Payment may be waived, but only in certain individual cases of extreme hardship. Those wishing to be considered for a fee waiver on this basis should consult with the Postdoctoral Admissions Committee and should supply the information necessary to support the waiver request. An application for admission cannot be considered until the fee has been paid or until it has been waived by formal action of the admissions authorities of the School. The fee is not refundable and is not credited toward tuition. As requested in the form, the applicant should ask each of the colleges or universities attended—for both preprofessional and professional studies—to send official transcripts of the record direct to the director of the postgraduate division to which the applicant is seeking admission. Official proof of current licensure should also be submitted.

Personal interview: if practicable, the Postdoctoral Admissions Committee may ask an applicant to come to the School for a personal interview.

Acceptance fee: within two weeks after receiving notice of acceptance, the applicant must notify the Committee that he or she intends to enroll and must send a check or money order for the amount specified in the acceptance letter, made payable to Columbia University. This acceptance fee is credited to the applicant's tuition upon registration in the class to which he or she has been admitted. If the applicant does not register in that class, the acceptance fee will be retained by the University.



Summary of Postdoctoral Programs

These programs lead to a board-qualifying certificate of training and are based on the need for specially qualified practitioners of dentistry. They provide opportunities for advanced study in special fields. The education received may be credited toward specialization.

The University reserves the right to withdraw or modify the courses of instruction or to change the instructors at any time.

Program in Endodontics

A two-year, full-time, board-qualifying program designed to prepare dentists for specialized practice and teaching in endodontics. Included are lectures, seminars, and laboratory courses in the basic sciences as well as in endodontics and related areas of dentistry. Clinical demonstrations, instruction, and experience in all phases and techniques of operative endodontics—conservative and surgical—are provided. Participants also receive experience in undergraduate endodontic teaching and in research.

Complete descriptions of the following courses are given under *Courses of Instruction*, below.

First Year

Autumn term

- D9200 Theory and practice of endodontics
- D9204 Endodontic anatomy and technic
- D9205 Clinical practice in endodontics
- D9210 Review of endodontic literature
- D9217 Surgical endodontics
- D9227 Guest lecture series
- D9900 Research methodology
- D9905 Oral medicine and clinical oral pathology
- D9912 Anatomy of the head and neck
- D9913 Radiology
- D9915 Psychiatry and psychosomatic medicine, and their interrelationships with dentistry
- D9920 Histology and embryology
- D9921 Statistics
- D9922 Physiology
- D9951 Periodontal wound healing seminars
- D9965 Microbiology and immunology

Spring Term

D9201, D9206, D9211, D9218, and D9228 are offered in the spring term of the first year. They are continuations of courses offered in the autumn term.

- D9215 Endodontic-periodontic relationships
- D9901 Cariology
- D9908 Clinical stomatology conferences
- D9914 Theory and practice of periodontics

Summer Session

Endodontics D9209 Clinical practice in endodontics

Second Year

Autumn Term

D9202, D9207, D9212, D9219, and D9229 are offered in the second year. They are continuations of courses offered in the first year.

- D9216 Pulp biology
- D9221 Thesis

Spring Term

D9203, D9208, D9213, D9220, D9222, and D9230 are offered in the spring term. They are continuations of courses offered in the autumn term.

- D9910 Clinical stomatology conferences
- D9923 Pharmacotherapeutics
- D9952 Periodontal wound healing seminars

Program in Orthodontics

This is a two-year, full-time program designed to meet the educational requirements of the American Board of Orthodontics and to prepare dentists for specialization in orthodontics. Instruction in the basic and applied sciences, in related medical subjects, and in theory and practice of orthodontics is provided by lectures, seminars, laboratory exercises, and clinical practice. Emphasis is on diagnostic procedures and treatment planning and the application of clinical methods best designed to meet the treatment objectives for the individual patient.

Instruction includes the theory and practice of treatment with various appliances: removable, labiolingual, twin-wire, extraoral forces, edgewise, and the Begg Appliance. Satisfactory completion of clinical training and preparation of a thesis based upon original research, under the direction of members of the orthodontic staff, are required.

See *Academic Calendar* for registration dates and for dates on which classes begin. For complete descriptions of courses see *Courses of Instruction*, below.

First Year

Autumn Term

- D9500 Orthodontic technic
- D9501 Clinical orthodontic practice
- D9507 Biomechanics

- D9515 Orthodontic literature review
- D9521 Theory and practice of orthodontics
- D9900 Research methodology
- D9912 Anatomy of the head and neck
- D9913 Radiology
- D9920 Histology and embryology
- D9921 Statistics
- D9922 Physiology
- D9956 Introduction to orthodontics
- D9957 Cephalometrics, growth and development
- D9958 Orthodontic diagnosis and treatment planning

Spring Term

D9502, D9516, D9522, and D9959 are offered in the spring term. They are continuations of courses offered in the autumn term.

- D9519 Dental materials
- D9525 Thesis
- D9901 Cariology
- D9903 Orofacial growth and development
- D9914 Theory and practice of periodontics
- D9919 Genetics

Summer Session

D9503 and D9526 are offered in the summer session. They are continuations of courses offered in the spring term.

Second Year

Autumn Term

D9504 and D9527 are offered in the autumn term and are continuations of courses offered in the summer session.

- D9509 Orthodontic diagnosis and treatment planning
- D9517 Orthodontic literature review
- D9523 Theory and practice of orthodontics
- D9904 Craniofacial anomalies
- D9905 Oral medicine and clinical oral pathology
- D9915 Psychiatry and psychosomatic medicine, and their interrelationship with dentistry
- D9916 Temporomandibular joint disorders
- D9917 Temporomandibular joint dysfunction and myofascial pain dysfunction problems
- D9960 Maxillofacial follow-up clinic
- D9966 Orthognathic surgery conference

Spring Term

D9505, D9510, D9518, D9524, D9528, D9918, D9961, and D9967 are offered in the spring term. They are continuations of courses offered in the autumn term.

- D9508 Practice management in orthodontics
- D9513 Public health aspects of orthodontics
- D9514 Oral and maxillofacial surgery related to orthodontics
- D9520 The cleft-palate patient
- D9902 Pediatrics related to dentistry
- D9910 Clinical stomatology conferences
- D9955 Speech pathology and therapy

Summer Session

D9506 and D9529 are offered in the summer session. They are continuations of courses offered in the spring term.

Program in Pedodontics

The two-year, full-time Pedodontic Program leading to a Certification of Training approved by the Council of Dental Education includes courses in basic sciences, developmental psychology, and dental and medical courses in various aspects of pedodontics and care for the handicapped patient.

During the two years, there is emphasis on clinical practice, utilizing behavior modification and training in analgesia, I.V. sedation, and operating room procedures. Clinical aspects of pedodontics are stressed in conjunction with preventive dentistry concepts and growth development of the child. An integral part of the program is a literature review of classical pedodontic readings and case presentations. Orthodontic techniques are stressed. The entire course is designed to facilitate taking the Specialty Board of the American Board of Pedodontics. The student conducts an investigation of a pedodontic nature and it is presented in the form of a thesis. Undergraduate teaching rotation is required in the second year.

A United Cerebral Palsy Clinical Fellowship is available during the second year of this program to students who demonstrate superior ability. The fellowship carries an annual stipend and is sponsored by the United Cerebral Palsy Research & Education Foundation, Inc.

Descriptions of the following courses are given under *Courses of Instruction*, below.

First Year

Autumn Term

- D9600 Pedodontic theory: technique and practice
- D9602 Clinical practice in pedodontics
- D9606 Anesthesiology and operating room protocol (rotation)
- D9610 Care of the neurologically handicapped child at Blythedale Children's Hospital (rotation)
- D9614 Satellite clinic at Human Resources (rotation)
- D9620 Preventive and interceptive orthodontic clinic
- D9624 Clinic for the handicapped child
- D9631 Thesis
- D9636 Pedodontic guest lecture seminar series
- D9640 Orthodontic technique laboratory
- D9643 Review of literature for the Academy of Pedodontic Boards
- D9650 Undergraduate pedodontic instruction preceptorship (rotation)

- D9655 Satellite clinic at the Institute for the Blind (rotation)
- D9657 Manhattan Development Center (rotation)
- D9900 Research methodology
- D9904 Craniofacial anomalies
- D9905 Oral medicine and clinical oral pathology
- D9911 Functional anatomy of the head and neck
- D9913 Radiology
- D9915 Psychiatry and psychosomatic medicine, and their interrelationships with dentistry
- D9920 Histology and embryology
- D9921 Statistics
- D9956 Introduction to orthodontics
- D9957 Cephalometrics: growth and development

Spring Term

D9601, D9603, D9607, D9611, D9615, D9621, D9625, D9632, D9637, D9644, D9651, D9656, D9658, and D9906 are offered in the spring term. They are continuations of courses offered in the autumn term.

- D9652 Dental materials
- D9901 Cariology
- D9902 Pediatrics related to dentistry
- D9908 Clinical stomatology conferences
- D9914 Theory and practice of periodontics
- D9923 Pharmacotherapeutics

Second Year

Autumn Term

- D9604 Clinical practice in pedodontics
- D9608 General anesthesia technique at Roosevelt and Columbia (rotation)
- D9612 Nitrous-oxide oxygen psychosedation at Blythedale (rotation)
- D9616 Satellite clinic at Human Resources (rotation)
- D9618 Satellite clinic at the Institute for the Blind (rotation)
- D9622 Orthodontics for the handicapped patient (rotation)
- D9626 Clinic for the handicapped child
- D9628 Preventive and interceptive orthodontic clinic
- D9630 Intravenous psychosedation clinic (rotation)
- D9633 Thesis
- D9635 Methodology in preventive dentistry
- D9638 Pedodontic guest lecture seminar series
- D9645 Review of literature for the Academy of Pedodontic Boards
- D9653 Undergraduate pedodontic instruction preceptorship (rotation)
- D9659 Manhattan Development Center (rotation)

Spring Term

D9605, D9609, D9613, D9617, D9619, D9623, D9627, D9629, D9634, D9639, D9646, D9654, and D9660 are offered in the spring term. They are a continuation of courses offered in the autumn term.

- D9642 Child developmental psychology
- D9647 Neurological conditions
- D9649 Anesthesiology and related pharmacotherapeutic measures
- D9910 Clinical stomatology conferences
- Anesthesiology 201 Clinical clerkship in anesthesiology

Program in Periodontics

The two-year, full-time program in periodontics prepares the dentist for specialized service, either in private practice or in academics. Although it is strongly clinical in emphasis, the program encourages participation in research and affords the interested student the opportunity for more intensive research training. The program consists of courses in the theory and practice of periodontics and in the basic biologic and related medical sciences. Many schools of thought and training programs are represented in the faculty. Thus, a variety of therapeutic approaches to clinical problems is offered. A scientific approach to a problem in an atmosphere of intellectual inquiry is nurtured, and the student is encouraged to apply fundamental biological knowledge and judgment to clinical problems. Students are also given an opportunity to assist in clinical instruction of undergraduate dental students. This program is accredited as meeting the educational requirements for candidacy for the American Board of Periodontology. Full credit is given for all courses the student completes even though he or she does not continue into the second year of advanced study.

Complete descriptions of the following courses are given under *Courses of Instruction*, below.

First Year

Autumn Term

- D9700 Clinical practice in periodontics
- D9704 Seminars in periodontics and literature review
- D9708 Seminars in periodontics: periodontal therapy
- D9720 Treatment planning in periodontics
- D9724 Minor tooth movement in periodontics
- D9727 Histology and histopathology of periodontal structures
- D9900 Research methodology
- D9905 Oral medicine and clinical oral pathology
- D9912 Anatomy of the head and neck
- D9913 Radiology
- D9915 Psychiatry and psychosomatic medicine, and their interrelationships with dentistry
- D9916 Temporomandibular joint disorders
- D9920 Histology and embryology
- D9921 Statistics
- D9922 Physiology
- D9951 Periodontal wound healing seminars
- D9962 Seminars in periodontics: plaque, calculus, microbiology, and immunology
- D9964 Continuation of D9962
- D9965 Microbiology and immunology

Spring Term

D9701, D9705, D9709, D9721, D9728, and D9952 are offered in the spring term. They are continuations of courses offered in the autumn term.

- D9713 Periodontal surgical conference
- D9726 Occlusion, function of the jaws and temporomandibular joint, with special reference to periodontics
- D9901 Cariology
- D9908 Clinical stomatology conferences
- D9923 Pharmacotherapeutics

Second Year

Autumn Term

D9702, D9710, D9714, D9722, and D9953 are offered in the second year. They are continuations of courses offered in the first year.

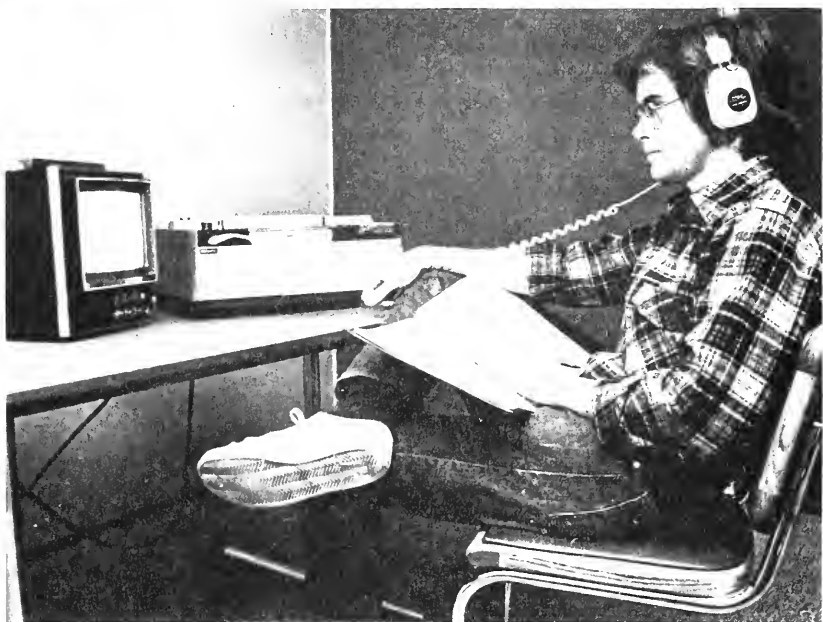
- D9716 Seminars in periodontics: journal club
- D9718 Seminars in periodontics: the social science and cultural background of health care, dentistry, and periodontics
- D9729 Restorative dentistry related to periodontics

Spring Term

D9703, D9711, D9717, D9719, D9723, D9730, and D9954 are offered in the spring term. They are continuations of courses offered in the autumn term.

- D9731 Practice management in periodontics
- D9910 Clinical stomatology conferences
- D9923 Pharmacotherapeutics
- Anesthesiology 201 Clinical clerkship in anesthesiology





Courses of Instruction

In the following course listings where the name of the subject or area of studies does not appear before the course number it is understood to be the same as the heading preceding each group of courses.

The University reserves the right to withdraw or modify the courses of instruction or to change instructors as may be necessary.

Dental Science (Core Courses)

^AD9900x. Research methodology

Professor Fine and staff.

A general consideration of the philosophy and methodology of basic and applied research, including a discussion of the art of scientific investigation, the laws and ethics of human experimentation, potential areas of research in the basic sciences and clinical dentistry, the use of the library, the role of statistics, techniques of clinical research, writing for the scientific literature, animal care, and funding of projects. *One two-hour lecture a week.*

^AD9901y. Cariology

Professor I. Mandel.

Lectures in the etiology and histopathology of dental caries, including recent advances in caries prophylaxis. *Seven lecture hours.*

D9902y. Pediatrics related to dentistry

The Department of Pediatrics staff.

A synopsis of pediatrics. Certain peculiarities of growing children of significance in dentistry. The basic concepts and practical aspects of psychological care of children. *One two-hour and one one-hour demonstration a week.*

^AD9903y. Orofacial growth and development

The staff.

Lectures on childhood and adolescent growth: development of the dentition; hereditary and environmental influences on growth; craniofacial malformations; and prediction of facial growth. *Sixteen lecture hours.*

D9904x. Craniofacial anomalies

The staff.

Discussion of various craniofacial anomalies, with emphasis on etiology, morphology, development, and clinical management. *Eight seminar hours.*

^AD9905x. Oral medicine and clinical oral pathology

Professor D. J. Zegarelli and staff.

A comprehensive description and discussion of the diseases of the mouth, jaws, and related structures. Emphasis is on clinical, radiographic, and histologic differential diagnosis. *One two-hour lecture a week for sixteen weeks.*

D9908y, D9910y. Clinical stomatology conferences

Professors D. J. Zegarelli and E. V. Zegarelli, and staff.

The presentation of case histories having interesting and diagnostically challenging diseases of the mouth and jaws. The diagnosis and treatment of each case are discussed by and with the audience, the latter including undergraduate dental students, dental hygiene students, postgraduate students, residents, practitioners, and faculty. *Weekly one-hour conferences.*

^D9911x. Functional anatomy of the head and neck**Professor Moss.**

A concise review of the functional interrelations and their dynamic significance. Pertinent clinical topics are analyzed from this viewpoint. *One two-hour session a week.*

D9912x. Anatomy of the head and neck**Professor Ely.**

Lectures and dissection. *Three hours a week for sixteen weeks.*

D9913x. Radiology**The dental radiology staff.**

The principles of dental x-ray technique, with emphasis on lateral, anteroposterior, sinus, and temporomandibular joint techniques. *Six hours.*

D9914y. Theory and practice of periodontics**Professor Gottsegen.**

Four one-hour lectures.

^D9915x. Psychiatry and psychosomatic medicine, and their interrelationships with dentistry**Professor Lefer.**

Basic concepts of psychodynamics, psychopathology, and psychosomatic medicine presented with clinical material showing their synthesis with dentistry. *Eleven two-hour lectures.*

D9916x. Temporomandibular joint disorders**Professor Marbach and staff.**

Lectures, discussions, and demonstrations on the diagnosis and treatment of temporomandibular joint disorders. Includes a study of the clinical physiology and pathology of facial pain, and the relationship between systemic diseases and facial pain syndromes. Discussion of current pain research. *Ten one-hour lectures with demonstrations.*

D9917x-D9918y. Temporomandibular joint dysfunction and myofascial pain dysfunction problems**Professor Marbach and staff.**

A review of skeletal mechanics of the temporomandibular joint and masticatory musculature in its relations to the head and shoulder girdle. The diagnosis of temporomandibular joint pain in terms of muscle spasm and aberration from normal occlusion. *Two hours of seminar and clinic each month.*

D9919y. Genetics**The staff.**

Lectures and demonstrations on principles of genetics. *Six hours.*

D9920x. Histology and embryology**Professor Moss-Salentijn.**

A survey of recent concepts in orofacial development, cranial morphogenesis, and the histology of dental and periodontal tissues. *Five two-hour lectures.*

D9921x. Statistics**The staff.**

A review of fundamental principles in statistics, with emphasis on the interpretation of dental statistics. Some attention to current concepts of caries etiology and control. *Nine one-hour lectures.*

D9922x. Physiology**Professor Di Salvo and staff.**

A review of physiological principles underlying certain oral functions, with special emphasis on sensory, motor, and secretory activity. *One lecture hour a week.*

^D9923y. Pharmacotherapeutics**The staff.**

Lectures on the application of pharmacologic principles of therapeutics in dental practice. *Eleven one-hour lectures.*

Anesthesiology 201. Clinical clerkship in anesthesiology**Dr. Bendixen and staff at the Presbyterian Hospital.**

A clerkship that provides training in preanesthetic evaluation, intraoperative management and monitoring, and postoperative recovery room and intensive care of surgical patients. Basic and advanced cardiac life support are incorporated into the curriculum and increase the student's capability in recognizing and initiating appropriate therapy in acute problems which lead to respiratory and/or circulatory arrest. The student becomes familiar with the role of the anesthesiologist in the operating room, in the intensive care unit, and as a respiratory therapy consultant.

Dental Science (Interdepartmental Courses)**D9951x-D9952y, D9953x-D9954y. Periodontal wound healing seminars****Professor Morris.**

The basic principles of wound healing are applied to the special problems of repair presented to dental and periodontal structures. These tissues are studied as they react to the various methods of therapy. *One one-hour seminar a week.*

D9955y. Speech pathology and therapy**Ms. Phyllis Gimbel.**

Language and speech development in children, and speech pathology and therapy in the patient with oral impairment. *Four two-hour lectures.*

D9956x. Introduction to orthodontics**Professor Nahoum and staff.**

Consists of a series of lectures which survey the entire field of orthodontics. Provides the student with background information that is required in order to begin treating patients and prepares the student for a more detailed study of laboratory and clinical procedures. *Thirty lecture hours.*

D9957x. Cephalometrics: growth and development**Professor Nahoum.**

A survey of growth and development of the dentition and face, including the theory and practice of taking standardized head roentgenograms utilizing a cephalostat, laboratory procedure in the methods of making tracings, and the clinical evaluation of headfilms. *Ten one-hour lectures and four three-hour laboratory sessions.*

D9958x-D9959y. Orthodontic diagnosis and treatment planning**Professor Di Salvo and staff.**

One one-hour seminar a week.

D9960x-D9961y. Maxillofacial follow-up clinic**Professor Janecka.**

Case discussions involving diagnosis and treatment of complex maxillofacial problems. *Two-hour sessions of clinic-seminar each month.*

D9962x-D9964y. Seminars in periodontics: plaque, calculus, microbiology, and immunology**Professors Oshrain and Fine, and staff.**

Intensive and critical review of the literature relating to formation, structure, chemistry, and bacteriology of plaque and calculus; the nature of salivary and crevicular fluids; leading to and covering the microbiology and immunology of periodontal disease. *One-and-one half hours a week for twenty weeks. D9964y runs until March.*



D9965x. Microbiology and immunology

Professors Naidorf, Kamen, and Fine.

Principles of bacteriology and immunology, with particular reference to applications in aseptic procedures and the control of infection in endodontics and periodontics; the relationships between the immune and inflammatory responses are stressed with particular references to clinical endodontics and periodontics. *Lectures: thirty-two hours.*

D9966x-D9967y. Orthognathic surgery conferences

Professors Cangialosi and Roser.

Seminars in diagnosis and treatment planning of those cases which exhibit complex dento-facial dysplasias requiring both surgical and orthodontic treatment for their resolution. Cases are presented by students and staff of the Divisions of Oral Surgery and Orthodontics. *One one-hour seminar each month.*

Endodontics

D9200x-D9201y, D9202x-D9203y. Theory and practice of endodontics

Professors Leavitt, Naidorf, and Ambinder.

Lectures and seminars on past and current theory in endodontics and its relation to modern endodontic practice. Guest lecturers will speak on current research developments in the field of endodontics or related disciplines. *Ninety hours.*

D9204x. Anatomy and technic of endodontics

Professors Moreinis and Cantor, and staff.

Lectures and laboratory sessions on the anatomy of roots, pulp chambers, and root canals. Lectures and demonstrations on endodontic armamentarium and materials. Lectures, demonstrations, and technic sessions on the chemomechanical preparation and filling of canals of extracted teeth. *Forty-five hours.*

D9205x-D9206y, D9207x-D9208y, D9209z. Clinical practice in endodontics

The staff.

Supervised clinical experience in all phases of operative endodontics. During the second year, instruction and experience teaching undergraduate clinical endodontics is included. *Average of 140 hours a term.*

D9210x-D9211y, D9212x-D9213y. Review of endodontic literature**Professors Ambinder, Lund, Leavitt, and Naidorf.**

Intensive discussion of past and current literature in endodontic and related fields. Reports by students on reading assignments. *One hundred ninety hours.*

D9214y. Pain seminars**Professor Fried.**

All aspects of pain are discussed from the endodontic viewpoint.

D9215y. Endodontic-periodontic relationships**Professor Leavitt.**

The theory and treatment of combined endodontic-periodontic problems. *Ten seminar hours.*

D9216y. Pulp biology**Professors Kim, Lee, Lund, Moss-Salentijn, and Naidorf.**

Normal and pathological pulps. Biological background for pulpal injury, inflammation, and repair. *Sixteen two-hour sessions and demonstrations.*

D9217x-D9218y, D9219x-D9220y. Surgical endodontics**Professors Kim, Ambinder, and Rothenberg, and staff.**

Lectures, demonstrations, and clinical experience in problems requiring combined endodontic and surgical treatment. *Lecture: twenty-six hours. Clinic: seventy-eight hours.*

D9221x-D9222y. Thesis**Professors Naidorf and Kim.**

The student conducts an investigation dealing with a subject of the student's choice and approved by the program director concerned. The results of the investigation must be presented in the form of a thesis which should be completed one month before the end of the final term.

D9227x-D9228y, D9229x-D9230y. Guest lecture series

Prominent clinicians and researchers are invited to lecture or conduct seminars in the areas of late advances in endodontics theory, practice, or research.

Orthodontics

D9500x. Orthodontic technic**Professor Di Salvo and staff.**

Intensive technical instruction and lectures in the assembling and manipulation on typodonts of removable, labiolingual, edgewise, extraoral forces, twinwire and Begg appliances, retainers, and bite plates. *Six three-hour sessions a week for eleven weeks.*

D9501x-D9502y and D9503z. Clinical orthodontic practice**Professor Di Salvo and staff.**

Supervised clinical practice in the use of removable, edgewise, extraoral, and Begg appliances. *Six three-hour sessions a week.*

D9504x-D9505y and D9506z. Clinical orthodontic practice**Professor Di Salvo and staff.**

A continuation of *D9501-D9502* and *D9503*.

D9507x. Biomechanics**Professor Blechman.**

Seven two-hour lectures.

D9508y. Practice management in orthodontics**Dr. Ruderman.**

Lectures on the administration of orthodontic practice. *Five two-hour lectures.*

D9509x-D9510y. Orthodontic diagnosis and treatment planning
Professor Di Salvo and staff.

One one-hour seminar a week.

D9513y. Public health aspects of orthodontics
Professor Huettnner.

Four two-hour lectures.

D9514y. Oral and maxillofacial surgery related to orthodontics
Professor Roser and staff.

Practical considerations of unerupted teeth, palatal expansion, residual alveolar clefts, and dentofacial deformities. *Four two-hour lectures.*

D9515x-D9516y, D9517x-D9518y. Orthodontic literature review
Professors Cangialosi and Nahoum.

One two-hour seminar a week.

D9519x. Dental materials
Professor Rosenblum.

Lectures and laboratory on the physical and chemical properties of the metals and other materials used in orthodontics and pedodontics, with clinical applications. *Six one-hour lectures.*

D9520y. The cleft-palate patient
Professor Isaacson and staff.

Lectures on the various problems in the treatment of the cleft-palate by the orthodontist. Coordination with related specialties is emphasized. *Six two-hour lectures.*

D9521x-D9522y, D9523x-D9524y. Theory and practice of orthodontics
Professor Di Salvo and staff.

Lectures, discussions, and demonstrations, in which theory is correlated with clinical observation and practice. *Three one-hour lectures a week in the first year and one lecture hour a week in the second year.*

D9525y-D9526z, D9527x-D9528y, D9529z. Thesis
Professor Di Salvo and staff.

The student conducts an investigation dealing with a subject of the student's choice and approved by the program director. The results of the investigation must be presented in the form of a written thesis which should be completed one month before the end of the final term.

D9966x-D9967y. Orthognathic surgery conferences
Professors Cangialosi and Roser.

Seminars in diagnosis and treatment planning of those cases which exhibit complex dento-facial dysplasias requiring both surgical and orthodontic treatment for their resolution. Cases are presented by students and staff of the Divisions of Oral Surgery and Orthodontics. *One one-hour seminar a month.*

Pedodontics

D9600x-D9601y. Pedodontic theory: technique and practice
Professor Davis.

Conferences and visual education on basic concepts of operative procedures, pulp therapy, and space maintenance.

D9602x-D9603y, D9604x-D9605y. Clinical practice in pedodontics
Professors Davis and Metcalf.

Supervised clinical practice in all phases of pedodontics and related disciplines.

D9606x-D9607y, D9608x-D9609y. Anesthesiology and operating room protocol (rotation)**Professor Myers.**

A rotation in the Anesthesiology Department of Presbyterian Hospital and didactic material on operating room techniques. Includes actual cases performed in the operating room.

D9610x-D9611y, D9612x-D9613y. Care of the neurologically handicapped child at Blythedale Children's Hospital (rotation)**Professors Davis and George.**

The clinical management of the neurologically handicapped child is stressed, including special techniques for the sedative management of difficult patients.

D9618x-D9619y. Satellite clinic at the Institute for the Blind (rotation)**Professor Hammer.**

Dental procedures for the pedodontic patient with blindness and other handicapping conditions.

D9620x-D9621y. Preventive and interceptive orthodontic clinic**Professor Kowek.**

Theory and application of preventive interceptive orthodontic techniques for the pedodontic and adolescent patient. Includes cephalometric and related diagnostic evaluation.

D9622x-D9623y. Orthodontics for the handicapped patient (rotation)**Professor Koster.**

Orthodontic practice for the handicapped child and adult.

D9624x-D9625y, D9626x-D9627y. Clinic for the handicapped child**Professor Metcalf.**

Clinical experiences with the handicapped child emphasizing comprehensive treatment planning and behavior management.

D9628x-D9629y. Preventive and interceptive orthodontic clinic

A continuation of *D9620-D9621*.

D9630x. Psychosedation and behavior management in pedodontics**The staff.**

Management approaches to the difficult patient are presented and include per oral premedication, nitrous oxide sedation, intramuscular and intravenous sedation. The didactic component is presented in seminars and with patients.

D9631x-D9632y, D9633x-D9634y. Thesis**Professor Davis.**

The graduate student conducts an investigation of an approved area of interest in the field of pedodontics.

D9635x. Methodology in preventive dentistry**Professor I. Mandel.**

Under the direction of the Division of Preventive Dentistry, seminars and projects pertinent to the prevention of dental pathology are conducted.

D9636x-D9637y, D9638x-D9639y. Pedodontic guest lecture seminar series**Professor Davis.**

Prominent individuals in the field of pedodontics present two-hour seminars on various contemporary topics.

D9640x. Orthodontic technique laboratory**Staff.**

A laboratory course designed to instruct the student in the principles of design and construction of various orthodontic appliances.

D9641y. Nutrition**The staff of the Institute of Human Nutrition.**

Study of human nutrition with emphasis on the requirements of normal growth and development and on the prevention of oral pathology.

D9642y. Child developmental psychology**Professor Davis.**

A literature review and seminar series designed to prepare the pedodontist to understand and implement the various techniques of behavior management.

D9643x-D9644y, D9645x-D9646y. Review of the literature in pedodontics**Professors Davis and Adler.**

A seminar review of the classical and current literature in pedodontics.

D9647y. Neurological conditions**Professor Metcalf.**

An overview of the human nervous system and pathologies with references to clinical expectations and management.

D9649y. Anesthesiology and related pharmacotherapeutic measures**Professor Jaffe.**

Theoretical background for the use of pharmacotherapeutic adjuncts to therapy.

D9650x-D9651y, D9653x-D9654y. Undergraduate pedodontic instruction preceptorship (rotation)**Professor Davis.**

Instruction by graduate students of the undergraduate student in clinical pedodontics.

D9652y. Dental materials**Professor Davis.**

Theoretical aspects of the selection and use of the various restorative materials in pedodontics.

D9655x-D9656y. Satellite clinic at the Institute for the Blind (rotation)

A continuation of *D9618-D9619*.

D9657x-D9658y, D9659x-D9660y. Manhattan Development Center (rotation)**Anesthesiology 201. Clinical clerkship in anesthesiology**

For description, see under Dental Science (Core Courses).

Periodontics

D9700x-D9701y, D9702x-D9703y. Clinical practice in periodontics**Professor Gottsegen and staff.**

Clinical experience in diagnosis, treatment planning, and all the phases of periodontal therapy. Exposure to a wide variety of surgical procedures, various occlusal concepts, simple orthodontic procedures, temporary stabilization methods, and grounding in patient management. Emphasis on motivating the patient to practice oral hygiene. *Five clinic sessions a week in the first year and six a week in the second year.*

D9720x-D9721y, D9722x-D9723y. Treatment planning in periodontics
Professors Johnson, Wasserman, and Geiger.

D9724x. Minor tooth movement in periodontics
Professor Vilardi.

The selection of cases and technic for performing minor tooth movements. *One hour of lecture a week.*

D9726y. Occlusion, function of the jaws and temporomandibular joint, with special reference to periodontics
Professors Tannenbaum and Vilardi.

One one-and-one-half hour lecture and one seminar a week for one semester.

D9727x-D9728y. Histology and histopathology of periodontal structures
Professor Moskow.

Study of microscopic aspects of periodontium in health and disease as they relate to clinical findings. Lectures and laboratory including microprojection. *Two hours a week for one year.*

D9729x-D9730y. Restorative dentistry related to periodontics
Professors Lucca, Grayson, Goldin, Scarola, Jutkowitz, and Widrow.

Restorative dentistry significant to periodontal problems. *One one-hour lecture a week for one year.*

D9731y. Practice management in periodontics
Professor Goodman.

One one-hour lecture a week for eleven weeks.



Periodontics Seminars

The following seminars provide the didactic core of periodontics and are organized as several concurrent and consecutive series devoted to different subject areas. This series is a review of the basic and significant periodontic literature having to do with the biology of the periodontal structures, periodontal disease, and periodontal treatment; it concerns itself with the role of periodontics and the surrounding world.

D9704x-D9705y. Seminars in periodontics and literature review **Professors Gottsegen, Abbatiello, Connolly, and Nisselson.**

A comprehensive and intimate familiarity with the literature is developed by the extensive seminar program. In addition the ability to read critically, to evaluate, and to present personal case material is engendered. *One two-hour seminar a week for one year.*

D9708x-D9709y, D9710x-D9711y. Seminars in periodontics: periodontal therapy

Professor Winter and staff.

Review of the literature in periodontal therapy. Students become familiar with the historical development of periodontal therapeutic techniques by exploring the literature, reading the classic articles, and critically analyzing the pertinent research. *One-and-one-half hours a week for one year.*

D9713y, D9714x-D9715y. Periodontal surgical conference **Professors Silston and Abbatiello, and staff.**

Seminars in periodontal surgical problems; literature review, critical analysis, and student case presentation. *One one-and-one half hour seminar a week throughout the academic year.*

D9716x-D9717y. Seminars in periodontics: Journal club **Professor Wasserman.**

A seminar series based on selected articles from current journals. Critical analysis of the assigned paper requires research and review of pertinent literature. The objective of this course is to develop habits of critical reading of the scientific literature. *One-and-one-half hours a week for one year.*

D9718x-D9719y. Seminars in periodontics: sociocultural and economic aspects of periodontics **Professor Gottsegen and staff.**

A series of seminars and discussions in which the historical and ethical background of medicine and dentistry becomes the framework for exploring current socioeconomic issues related to the health professions. This course is based on the belief that the increasing social responsibility demanded of leaders of the health professions requires specialists with a broad cultural understanding and strong ethical values as well as advanced technical skill and scientific knowledge. *One-and-one-half hours a week for one year.*

Fellowship and Postdoctoral Programs in Basic Sciences

In recognition of the need for advanced education in the basic sciences and to qualify graduates in dentistry as teachers and investigators, fellowships are offered for study and research in anatomy, biochemistry, microbiology, pathology, pharmacology, and physiology. Fellows are normally enrolled in the Graduate School of Arts and Sciences of the University as prospective candidates for the degree of Doctor of Philosophy.

Appointments are made on a yearly (twelve-month) basis, with opportunity for renewal or extension at the discretion of the chairman of the department in which the

student is enrolled. The specific objectives of the program are to furnish more complete preparation for careers in dental education and to offer training in investigation so that research in important unsolved problems indigenous to dental science will be extended. Students may apply also to the United States Public Health Service for financial aid.

The formal instruction is elected from courses offered in the Graduate School of Arts and Sciences, the School of Dental and Oral Surgery, the College of Physicians and Surgeons, and the School of Public Health. Each fellow must formulate and carry out, under supervision, an original investigation. During the period of appointment, fellows are expected to remain in residence and devote their entire time to study and research. In order to maintain contact with clinical dentistry, the student may attend clinics in the School of Dental and Oral Surgery and will be given an opportunity to participate in undergraduate teaching.

Fellowship Application

To apply for a fellowship in the basic sciences for dentists, the applicant should obtain, from the Postdoctoral Admissions Office, School of Dental and Oral Surgery, 630 West 168th Street, New York, N.Y. 10032, an application form which should be completed and returned to the same address. Applicants should also arrange for each college or university they have attended to send two official transcripts of their records to the Postdoctoral Admissions Office. A personal interview with the applicant is required. The applicant must be accepted not only by the School of Dental and Oral Surgery but also by the chairman of the specific basic science department within which he or she wishes to study. Applications may be submitted at any time. Appointments are made as vacancies occur.

Admission to the Graduate School of Arts and Sciences

Upon acceptance to a postdoctoral program the applicant must apply for admission as a regular graduate student in basic sciences in the Graduate School of Arts and Sciences of Columbia University. The admission procedure, and the procedure and dates for registration, including payment of fees, are given in the bulletin of the Graduate School of Arts and Sciences, a copy of which can be secured by writing to the Graduate School of Arts and Sciences Office of Student Affairs, 106 Low Memorial Library, Columbia University, New York, N.Y. 10027.



Patients Must Be Shielded
With Lead Aprons

7-214b

This radio is intended for use
in the following areas only:
1. X-ray
2. X-ray
3. X-ray
4. X-ray
5. X-ray
6. X-ray
7. X-ray
8. X-ray
9. X-ray
10. X-ray

The Dental Hygiene Programs

A Career in Dental Hygiene

Admission Procedure

The Baccalaureate Programs

Program A

Program B

The Graduate Program



A Career in Dental Hygiene

As the demand for dental services increases, the spotlight focuses on the dental hygienist, in most states the only licensed dental auxiliary with formal permission to work on the tissues of the oral cavity. The present and future needs, both national and international, far exceed the number of dental hygienists now available and in training. The programs in dental hygiene offer excellent preparation for the countless opportunities available to registered dental hygienists in a variety of settings.

In private practice, the dental hygienist functions as a member of the dental health team, providing preventive and therapeutic clinical services and comprehensive dental health education under the supervision of the dentist.

In compliance with school policies and in cooperation with the supervising dentist, school administrator, and teaching staff, the dental hygienist develops dental health education programs, provides clinical services for school children, and functions as a dental health liaison to the community.

In public health agencies, the dental hygienist augments the services of medical, dental, and social public health workers by planning, instituting, administering, and evaluating dental health programs.

In private industry, the dental hygienist provides preventive and health educational services for company beneficiaries and community groups. Dental hygienists are currently finding new career opportunities as reviewers of third party payment plans for insurance corporations and agencies.

In hospitals, as a member of the total health team, the dental hygienist provides maintenance and preventive services to assist patients in the attainment of maximum oral health. Administrative services are performed by the dental hygienist in the hospital dental clinic setting.

In research, the dental hygienist develops and collaborates in areas of basic and applied research with other health professionals. Research is conducted by the hygienist in clinical, educational, and community settings.

The Peace Corps, missionary service, American industries, and dental hygiene schools abroad provide openings for professionals with a desire to expand their horizons in dental health at the international level.

In dental hygiene education, the graduate hygienist provides clinical and classroom instruction for dental hygiene students in training programs; and dental hygienists with advanced degrees hold administrative positions in dental hygiene programs.

In whatever field dental hygienists choose to serve, they hold positions of increasing responsibility and professional recognition.

Admission Procedure

Prospective applicants may obtain application materials from the Division of Dental Hygiene, Room 7-221 VC, School of Dental and Oral Surgery, Columbia University, 630 West 168th Street, New York, N.Y. 10032; telephone (212) 694-3472. The completed form should be returned to the Division of Dental Hygiene with the application fee of \$35, made payable to Columbia University. This fee cannot be returned and is not credited toward tuition. Candidates for the B.S. degree (Program A) are admitted only in September. Candidates for the B.S. degree (Program B), and for the M.S. degree, and applicants who are not degree candidates are admitted in September, January, May, or July.

Acceptance Fee

Within two weeks after applicants have been informed of their acceptance, they must notify the Director that they intend to become degree candidates. A check or money order for \$200, payable to Columbia University, must accompany the applicant's acceptance. If the applicant registers at the next enrollment, the amount of the acceptance fee will be deducted from the tuition for that term. If the applicant does not register, the acceptance fee will not be returned.

Admission to Individual Courses

Students who do not wish to become degree candidates may be granted permission to attend a course or courses to a maximum of twelve points if they meet the standards of scholarship and attendance required of degree candidates.



Program A

The educational program of the dental hygienist at Columbia has a long and distinguished record. In 1916, the New York School of Dental Hygiene became affiliated with the School of Dental and Oral Surgery, providing the first dental hygiene program to be offered in a university. In 1947, because of the many advances within the profession and general broadening of educational programs, Columbia eliminated the one-year technical program in favor of the professional bachelor's degree (Program A). It is, at this time, one of only twenty-seven such programs that offer dental hygiene education at the baccalaureate level, concentrating on the academic preparation of a professional dental hygienist.

Admission Requirements

Applicants must have completed two years or 60 points of credit in approved colleges or universities, including one course in each of the following subjects: English composition, speech, sociology, psychology; 4 points of general chemistry with laboratory; and 4 points of biology with laboratory. Additional courses in chemistry and biology are recommended.

Application for admission is evaluated on the basis of the following materials submitted by candidates:

1. The application form
2. Official transcripts from each college attended
3. Two letters of recommendation from college faculty
4. One personal letter of recommendation
5. A personal statement of interest and career objectives

Applicants whose credentials are acceptable for admission will receive an invitation for an interview with the Committee on Admissions for Dental Hygiene. Those who live in areas outside commuting distance of New York City may, at the discretion of the Admissions Committee, be interviewed by members of the alumni in their respective localities.

Requirements for the B.S. Degree in Dental Hygiene

Students must complete 70 points, 68 points of which are required courses, indicated by the letter ^R preceding the course number. The remaining points, including the English requirement as determined by the English Placement Test, may be selected from courses offered at the School of General Studies or in other University divisions.

Courses of Instruction

In the following course listings, *Dental Hygiene* is understood to precede all course numbers unless otherwise indicated.

The University reserves the right to withdraw or modify the courses of instruction or to change instructors as may be necessary.

- ^RD3017x. Microbiology** **2 pts**
Morphology and physiology of microorganisms. The role of microorganisms in health and disease with emphasis on the microorganisms associated with the oral cavity.
- ^RD3033x. Biochemistry** **2 pts**
The chemical reactions of the components of the living cell; proteins, carbohydrates, lipids, nucleic acids, vitamins, and hormones.
- ^RD3040x. Human anatomy and physiology** **6 pts**
A correlated survey of human anatomy and physiology with special emphasis on topics of special interest to oral health care. Lecture and laboratory with human materials.
- ^RD3067y. Histology** **3 pts**
A basic course in general and oral histology and oral embryology. Special emphasis is placed on the microscopic anatomy of the hard and soft tissues of the oral cavity; use of the microscope in laboratory sessions.
- ^RD3100x. Oral anatomy** **3 pts**
The anatomy and physiology of the structures of the oral cavity. Emphasis is placed on tooth development and morphology of the permanent and deciduous dentition. Through lectures, slide projections, and laboratory carving and drawing requirements, the students are prepared to meet course objectives and to experience a solid foundation for dental hygiene education.
- ^RD3113x. Pharmacology** **2 pts**
Orientation to the study of pharmacology and therapeutics as it affects the clinical practice of dental hygiene and dentistry.
- ^RD3126y. Radiology** **3 pts**
Principles and procedures of oral radiology which relate to diagnostic yield. Topics include radiation, physics and biology, radiographic armamentarium and techniques, radiographic interpretation, and radiation protection. Lectures, demonstrations, and practice.
- ^RD3138x. Myofunctional therapy** **2 pts**
Etiology and symptomatology of oral habits affecting occlusion, mastication, deglutition, facial expression, and speech. Cephalometric roentgenography and photography used in the study of facial growth and dental and facial relationships. Methods and techniques for correcting poor oral habits.
- ^RD3139y. Myofunctional therapy clinic** **1 pt**
Clinical practice in habit retraining, including interviewing, examination, data collection and interpretation, and therapy techniques.
- ^RD3153y. Oral pathology and medicine** **1 pt**
Lecture and slide presentation of the more common and pertinent diseases of the hard and soft tissues of the mouth. Topics include the important aspects of overall medical problems and their implications for dental hygiene practice.
- ^RD3154x. Oral pathology and medicine** **2 pts**
Discussion of various types of oral diseases: detection, cause, pathogenesis, clinical picture, histopathology, microbiology, radiography, and prognosis. Lectures, reading assignments, and slide presentations provide the hygienist with the information necessary for preliminary diagnosis.
- ^RD3163y. Periodontics, I** **2 pts**
An introduction to the histological and clinical presentation of the periodontium in health and disease. Techniques for evaluating periodontal status and identifying etiologic agents causing alterations in these tissues enable the student to apply preventive and therapeutic measures in the clinical situation.

- ^RD3164x. Periodontics, II** **2 pts**
Building on the students' background in nomenclature, histology, and pathology of the periodontium, the rationale and techniques of various current periodontal surgical procedures are introduced. Teaching teams, instructors, and guest lecturers highlight the hygienist's significant role in prevention, maintenance, and therapy of periodontal disease.
- ^RD3175x. Local anesthesia** **1 pt**
Lectures and clinical sessions on basic and current concepts of the administration of local anesthesia.
- ^RD3200y. Methods in oral health education** **2 pts**
A study of the development of behavioral skills in motivating and communicating dental health education to the patient.
- ^RD3234y. Critique of dental literature** **2 pts**
Introduction to the critical examination of dental literature. Evaluation of scientific writing and research methodology is related to the needs of the dental hygienist.
- ^RD3268x. Introduction to methods of research** **2 pts**
Introduction to the philosophy, principles, and methods of scientific inquiry. Topics include research planning, techniques of making observations, and analysis and presentation of findings.
- ^RD3350x. Social dental hygiene, I** **2 pts**
Basic orientation to principles of public health. An ecological approach to sociocommunity health designed through seminar sessions, class discussions, assigned reading to sensitize the student to the dental needs of the community.
- ^RD3351y. Social dental hygiene, II** **3 pts**
Through field assignments in selected social settings, the student participates in community health care planning and becomes acquainted with patterns for the delivery of comprehensive health care services and the role of the dental team in these patterns. Students spend one full day per week in a setting where they initiate and carry out a simple research project.
- ^RD3400x. Preventive oral health services, I: Lecture** **2 pts**
An introduction to basic concepts and principles of preventive oral health services the dental hygienist may render to the public.
- ^RD3401x. Preventive oral health services, I: Clinic** **2 pts**
Students spend nine hours each week in a clinical practice setting with lab partners and patients.
- ^RD3402y. Preventive oral health services, II: Lecture** **2 pts**
Continuation, expansion, and reinforcement of the preventive oral health services performed by the dental hygienist through clinical application of correlated lecture material. Emphasis on developing professional conduct and judgment, technical accuracy, and interpersonal relations.
- ^RD3403y. Preventive oral health services, II: Clinic** **2 pts**
Students spend nine hours each week in a clinical setting that provides direct services to the public.
- ^RD3404x. Preventive oral health services, III: Lecture** **2 pts**
Designed to familiarize the dental hygiene student with different dental materials available and utilized in dental practice.
- ^RD3405x. Preventive oral health services, III: Laboratory** **1 pt**
Laboratory experience provides a basis for understanding the procedures involved in using restorative and other dental materials, especially as they relate to expanded services performed by the dental hygienist.

- ^RD3406x. Preventive oral health services, III: Clinic** **2 pts**
Students spend fifteen hours each week providing direct patient services.
- ^RD3407y. Preventive oral health services, IV: Lecture** **2 pts**
Designed to develop awareness in the dental hygiene student of total patient care within the different dental specialties. Additional preventive services are emphasized in order to function more effectively in the dental practice setting.
- ^RD3408y. Preventive oral health services, IV: Clinic** **2 pts**
Students spend fifteen hours each week providing direct patient services.
- ^RD3420x. Professionalism, I** **1 pt**
The history of dental hygiene and the American Dental Hygienists' Association, its structure and function, with particular emphasis on the principles and utilization of parliamentary procedures.
- ^RD3421y. Professionalism, II** **1 pt**
Seminar that focuses on the issues in current dental hygiene practice.
- ^RD3422x. Professionalism, III** **1 pt**
Independent study in the field of table clinic design and presentation. Under guidance of a faculty adviser, the student develops a table clinic for presentation at scientific sessions of local, state, and national meetings of professional organizations.
- ^RD3423y. Professionalism, IV** **1 pt**
A study of career development and employment opportunities in dental hygiene. Students examine the hygienist's role in various professional settings and discuss ethical issues and professional conduct.
- ^RD3546y. Oral health teaching** **2 pts**
Designed to increase the student's ability to create, select, and utilize appropriate methods and materials in oral health education for elementary and secondary school programs. Students provide a minimum of eight one-hour units of instruction for various grade levels in area schools.
- ^RNutrition M3230x. Nutrition in health and disease** **2 pts**
An introductory course in nutrition presented in cooperation with the Institute of Human Nutrition.



Program B

In 1963 Columbia initiated a postcertificate program designed to provide advanced dental hygiene and liberal arts education for transfer students from basic dental hygiene education programs. Program B leads to a bachelor's degree and is at present one of only twenty-seven programs of this type. This program provides the student with advanced and extended clinical skills and a broadened background in the liberal arts, allowing the graduate to practice dental hygiene in a variety of settings.

Admission Requirements

Applicants must have completed two years of dental hygiene education at an accredited dental hygiene program and must be licensed to practice dental hygiene. Proof of licensure must be submitted prior to registration for classes.

Application for admission is evaluated on the basis of the following materials submitted by candidates:

1. The application form
2. An official transcript from each college attended
3. Two letters of recommendation from college faculty
4. One personal letter of recommendation
5. A personal statement of interest and career objectives

Applicants whose credentials are acceptable for admission will receive an invitation for an interview with the Committee on Admissions for Dental Hygiene. Those who live in areas outside commuting distance of New York City may have an interview with members of the alumni in their respective localities at the discretion of the Admissions Committee.

Applicants from foreign countries are required to take the TOEFL examination (Test of English as a Foreign Language) in order to establish language competency; applicants must also show transcript evidence of having completed a curriculum comparable to a basic two-year curriculum that meets minimal guidelines as specified by the Council on Dental Education.

Requirements for the B.S. Degree in Dental Hygiene

Students must complete 70 points, including the English composition requirement as determined by their scores on the English Placement Examination, 6 points of literature, 3 points of anthropology, and 3 points of fine arts. At least 35 of the required 70 points must be taken at the School of Dental and Oral Surgery; of these 35 points, 23 are required courses, indicated by the letter ^R preceding the course number. The remaining 35 points may be taken in a chosen area of elective concentration and selected from courses offered at the School of Dental and Oral Surgery or in other divisions of the University.

Courses of Instruction

In the following course listings, *Dental Hygiene* is understood to precede all course numbers unless otherwise indicated.

The University reserves the right to withdraw or modify the courses of instruction or to change instructors as may be necessary.

D3138x. Myofunctional therapy 2 pts

Etiology and symptomatology of oral habits affecting occlusion, mastication, deglutition, facial expression, and speech. Cephalometric roentgenography and photography used in the study of facial growth and dental and facial relationships. Methods and techniques for correcting poor oral habits.

D3139y. Myofunctional therapy clinic 1 pt

Clinical practice in habit retraining, including interviewing, examination, data collection and interpretation, and therapy techniques.

^RD3164x. Periodontics, II 2 pts

Building on the students' background in nomenclature, histology, and pathology of the periodontium, the rationale and techniques of various current periodontal surgical procedures are introduced. Teaching teams, instructors, and guest lecturers highlight the hygienist's significant role in prevention, maintenance, and therapy of periodontal disease.

D3175x. Local anesthesia 1 pt

Lectures and clinical sessions on basic and current concepts of the administration of local anesthesia.

D3187x and y. Dental specialties 1, 2, or 3 pts

Students rotate through clinical specialties of various divisions of the School of Dental and Oral Surgery.

D3188x and y. Dental specialties 1, 2, or 3 pts

Students rotate through clinical specialties of various divisions of the School of Dental and Oral Surgery.

D3190x and y. Independent study 1, 2, or 3 pts

Registration only by permission of the instructor under whose guidance work is undertaken. Proposals must have prior approval of a faculty member. Students must plan to spend three hours per week for every point of independent study credit.

D3191x or y. Independent study 1, 2, or 3 pts

As stated under *D3190*.

^RD3234y. Critique of dental literature 2 pts

Prerequisite: *D3268*.

Introduction to the critical examination of dental literature. Evaluation of scientific writing and research methodology is related to the needs of the dental hygienist.

^RD3268x. Introduction to methods of research 2 pts

Introduction to the philosophy, principles, and methods of scientific inquiry. Topics include research planning, techniques of making observations, and analysis and presentation of findings.

^RD3350x. Social dental hygiene, I 2 pts

Basic orientation to principles of public health. An ecological approach to sociocommunity health designed through seminar sessions, class discussions, and assigned reading to sensitize the student to the dental needs of the community.

^RD3351y. Social dental hygiene, II 3 pts

Through field assignments in selected social settings, the students participate in community health care planning and become acquainted with patterns for the delivery of comprehensive health care services and the role of the dental team in these patterns. Students spend one full day per week in a setting where they initiate and carry out a simple research project.

D3352x. Hospital administration 2 pts

A year course where the autumn term is designed to give the dental hygiene student exposure to the didactic aspects of hospital administration. An overview of the functions of a hospital is presented including the history, relationship of the hospital to the community, administrative functions, and the integration of dental health services within the hospital setting.

D3353y. Hospital administration 3 pts

Field work in hospital administration. Students spend two full days per week in a hospital setting where they participate in hospital administration and management within a dental facility.

^RD3420x. Professionalism, I 1 pt

The history of dental hygiene and the American Dental Hygienists' Association, its structure and function, with particular emphasis on the principles and utilization of parliamentary procedures.

^RD3544x. Dental hygiene teaching theory 3 pts

Basic principles, philosophies, and methods of classroom teaching. Practical experience in developing skills in design, implementation, and evaluation.

^RD3545y. Dental hygiene teaching practice 3 pts

Field experiences in dental hygiene teaching, including clinical and classroom instruction.

D3546y. Oral health teaching 2 or 3 pts

Designed to increase the student's ability to create, select, and utilize appropriate methods and materials in oral health education for elementary and secondary school programs. Students provide a minimum of eight one-hour units of instruction for various grade levels in area schools.

^RD3580x. Advanced preventive oral health services, I 2 pts

Designed to expand the knowledge of the dental hygienist in the area of clinical practice with particular attention to the topics of clinical periodontics.

^RD3581x. Advanced preventive oral health services, I: Clinic 1 pt

Students are assigned to postgraduate students in the division of periodontics for advanced training.

D3582y. Advanced preventive oral health services, II 3 pts

Lecture, seminar, and laboratory course in expanded functions in restorative dentistry; a two-hour lecture and three-hour laboratory per week.

^RD3583y. Advanced preventive oral health services, II: Clinic 1 pt

Students spend clinic time in preparation for clinical teaching assignments in the second year; prerequisite course for *D3544-D3545*.

Areas of Concentrated Study

Dental Hygiene Education

Preparation is for first-level clinical teaching in dental hygiene programs, dental health teaching, and/or graduate study in dental hygiene education or allied health. This concentration provides basic knowledge of educational philosophy and psychology, teaching methods and materials, and tests and measurement. More than forty courses are available in various departments of Teachers College and the School of General Studies.

Public Health

Preparation is for positions in public health agencies, dental clinics, and/or graduate study in dental hygiene, public health, health education, or health administration. This concentration provides students with greater understanding of the role and function of

dental hygienists in public health agencies and ways in which they work with health and social agencies in the community. Students are fortunate to have a large number of extramural public health, hospital, medical, and prepayment facilities and organizations in and around New York City for field experiences. A variety of courses are offered at Teachers College and the School of Public Health.

Speech

Preparation is for expanded clinical practice in the areas of speech pathology and myofunctional therapy and/or for graduate study in speech pathology. Students become familiar with major speech disorders related to dentistry and with the methods of preventing oral and facial defects. Courses are offered at Teachers College, the School of General Studies, and the School of Dental and Oral Surgery.

Nutrition

Preparation is for expanded clinical practice in the area of nutritional counseling and/or for graduate study in the field of nutrition education. Attention is given to the development of nutritional programs in various communities, both in this country and abroad. Courses in sciences and related fields are offered at Teachers College and in the School of General Studies.

Liberal Arts

Students who do not wish to concentrate in any of the areas listed above may supplement their dental hygiene courses with liberal arts courses selected according to individual needs and interests. These courses are taken at the School of General Studies and Barnard College.

Predental Education

Students interested in application to dental school should be prepared to fulfill certain course requirements during the summer prior to entrance. After entering the program, the student must follow a rigid course of study which includes the science courses prescribed for entrance to most dental schools.

The Graduate Program

The Master of Science degree program was established in 1953 as the first graduate program in dental hygiene. This program is designed to prepare candidates for positions in dental hygiene education and program administration; community and public health dental hygiene; educational, clinical, or basic research; or graduate study at the doctoral level. At present it is one of only five programs in the country that offers the final degree in dental hygiene.

Admission Requirements

Applicants must have completed a bachelor's degree approved by Columbia University and must be licensed to practice dental hygiene or dentistry. Proof of licensure must be submitted prior to registration for classes.

Application for admission is evaluated on the basis of the following materials submitted by the candidates:

1. The application form
2. Official transcripts from each college attended
3. Two letters of recommendation from college faculty
4. One personal letter of recommendation
5. A personal statement of interest and career objectives

Applicants whose credentials are acceptable for admission will receive an invitation for an interview with the Committee on Admissions for Dental Hygiene. Those who live in areas outside commuting distance of New York City may have an interview with members of the alumni in their respective localities at the discretion of the Admissions Committee.

Applicants from foreign countries are required to take the TOEFL examination (Test of English as a Foreign Language) in order to establish language competency.

Degree Requirements

The Master of Science degree is granted upon the satisfactory completion of 32 points. At least 18 points must be earned in the School of Dental and Oral Surgery, 16 of which are required courses, indicated by the letter ^R preceding the course number. The remaining course work may be completed in other graduate departments of the University.

Courses of Instruction

In the following course listings, *Dental Hygiene* is understood to precede all course numbers unless otherwise indicated.

The University reserves the right to withdraw or modify the courses of instruction or to change the instructors as may be necessary.

R D6001x. Teaching preventive oral health services: instruction and evaluation 4 or 5 pts

An experiential study of clinical dental hygiene education utilizing the concepts inherent in a basic teaching model: instructional objectives, entering behavior, learning experiences, and evaluation procedures. Emphasis on creating and evaluating learning experiences for students in a preclinical phase of study in a dental hygiene curriculum leading to a baccalaureate degree.

D6003x or y. Curriculum 2 or 3 pts

An overview of higher education as it relates to curriculum issues, organization, and development in the field of dental hygiene at the associate degree and baccalaureate degree levels.

R D6004x. Methods of research, I 3 pts

Introduction to the philosophy, principles, and methods of scientific inquiry; topics include research planning, techniques of making observations, and analysis and presentation of findings. Opportunity to design research projects in clinical, social, or educational settings.

R D6005x and y. Methods of research, II 3 pts

Prerequisite: *Dental Hygiene D6004*

Under direction of the course instructor, students plan and execute a modest research project. Results of the investigation are presented in a thesis completed before the end of the term.

D6006x. Oral diagnosis 2 pts

A comprehensive description of diseases of the mouth, jawbone, and related structures.

D6008y. Scientific writing and reporting 3 pts

Development of techniques for preparation of publishable articles in professional journals and health-related lay publications, emphasizing grammar and style fundamentals through critical review, editing, evaluation, and production of manuscripts.

R D6009x-D6010y. Experiences in dental hygiene teaching 3 pts each term

Seminar on philosophical questions and practical methods of teaching. Skill development includes design and evaluation of individual presentations that maximize the role of teacher as facilitator of student growth.

R D6011x. Advanced periodontics: Lecture 2 pts

Selected readings from current periodontal journals and class periodontal textbooks provide comprehensive knowledge of periodontal histology, pathology, and disease etiology. Emphasis is on the development of communication skills needed by the dental hygiene teacher to be conversant in periodontics.

D6012x or y. Advanced periodontics: Clinic 1, 2, or 3 pts

Clinical experiences in scaling and root planing procedures.

D6013x-D6014y and D6013y-D6014x. Basic science foundation for dental hygiene practice 3 pts each term

Study of selected basic science topics under the supervision of the respective basic science instructors. Analysis of the topics as they relate to dental hygiene education.

D6017x and y. Externship in dental hygiene education 4½ or 9 pts

Supervised administrative and teaching experiences in dental hygiene schools that cooperate with the dental hygiene program of the School of Dental and Oral Surgery. Experiences culminate with a written report and workshop presentation at the end of the term.

D6018x-D6019y. Myofunctional therapy 2 pts each term

Investigation of the etiology, symptomatology, and treatment of oral habits that may or may not affect occlusion, mastication, deglutition, facial expression, and speech. Students select an area of specific interest and develop a research project.

D6020x and y. Expanded services for the dental hygienist 3 pts

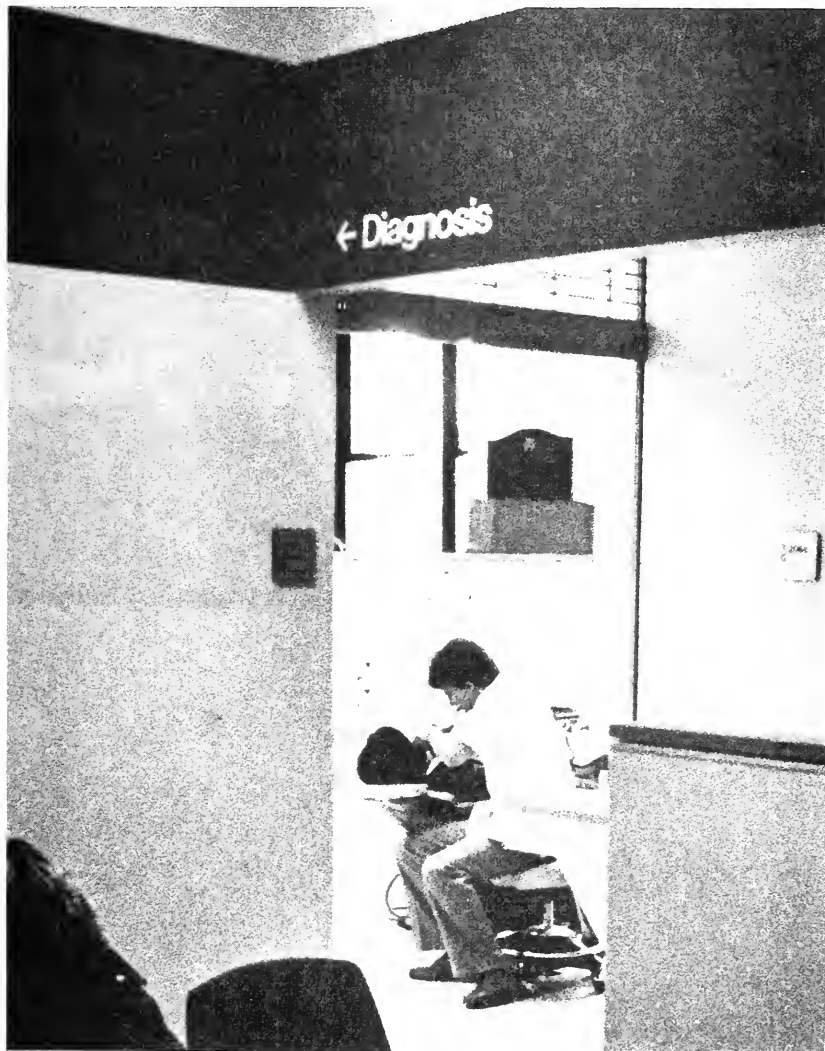
Lecture and laboratory course in expanded functions in the area of restorative dentistry.

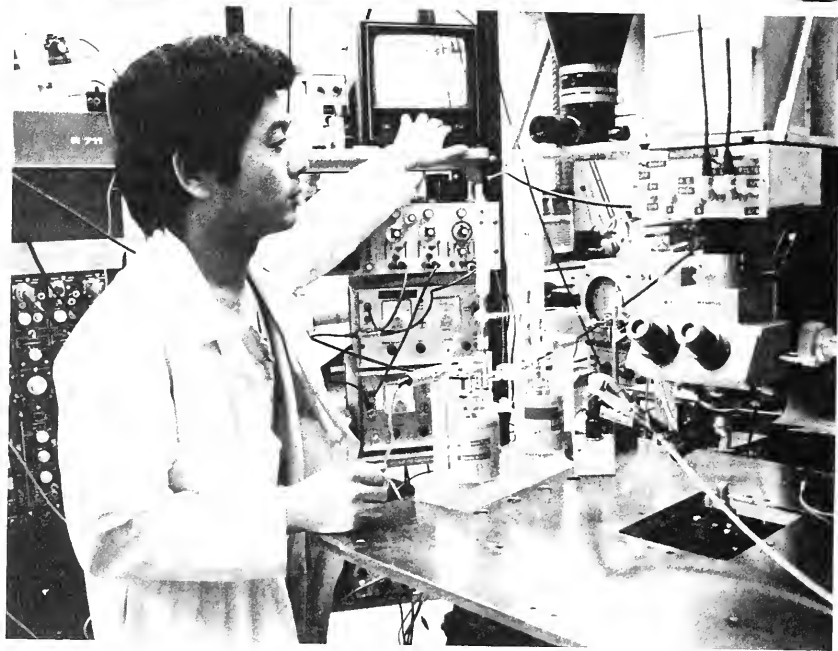
D6021x and y. Independent study 1, 2, or 3 pts

Registration only by permission of the instructor under whose guidance work will be undertaken. Proposals must have prior approval of the faculty member. Students studying for one point must plan to spend three hours weekly on the project, two points require six hours per week, and three points require nine hours per week.

D6022x and y. Independent study 1, 2, or 3 pts

As stated under *D6021*.





Registration, Expenses, and Financial Aid

Registration

Auditing Courses

Regulations

Fees

Estimated Expenses

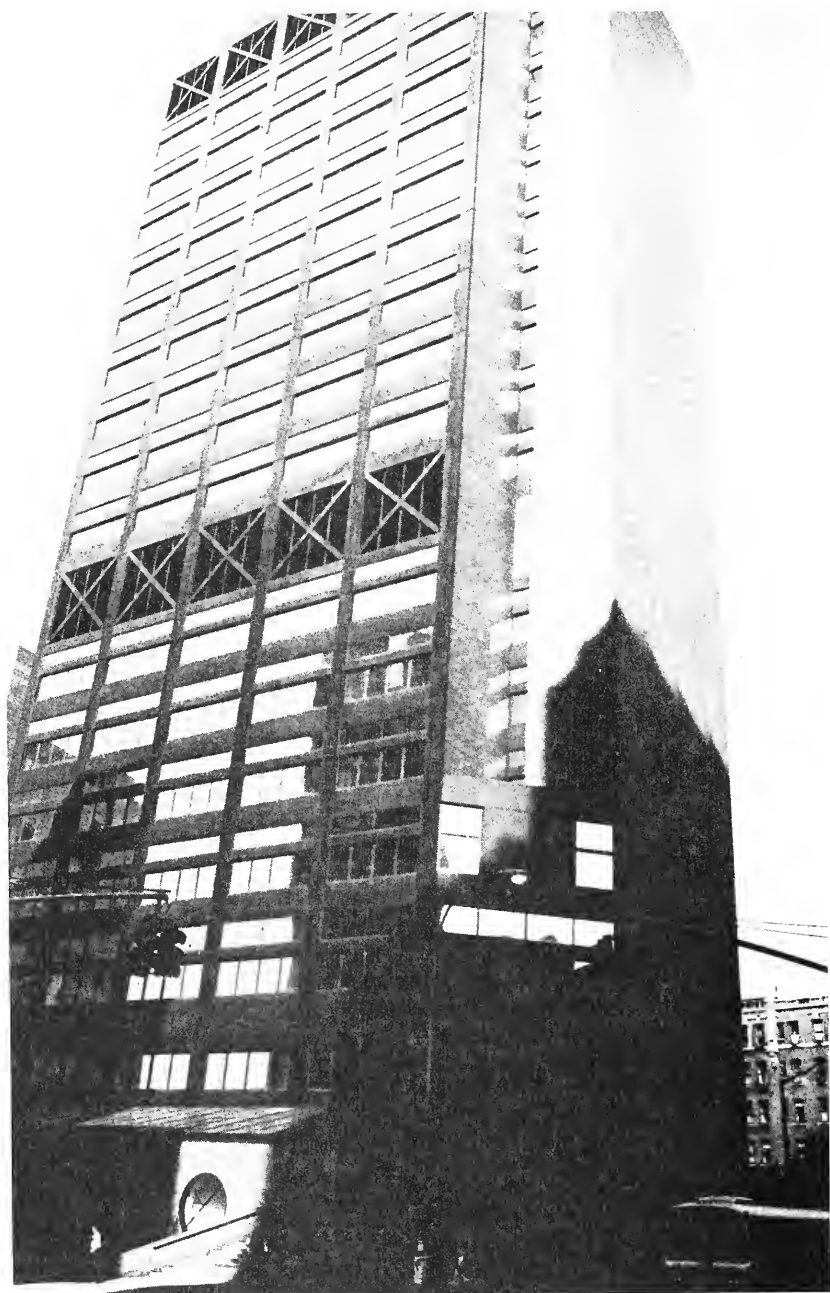
Financial Aid

Honors

Living Arrangements

Student Organizations

License to Practice



Registration, Expenses, and Financial Aid

Registration

Before students may attend classes they must register in person during the registration period (see *Academic Calendar*) and fill out various forms required for University records. Late registration requires the approval of the Dean of the School and payment of a late fee (see under the listing of fees, below).

All students are asked to give Social Security numbers when registering in the University. However, Social Security numbers are required of foreign students *only* when those students will be receiving payment from the University. Foreign students should consult the Office of Foreign Student Services, 208 Lewisohn Hall, for further information. Other students who do not have Social Security numbers should obtain them from their local Social Security offices *well in advance of registration*.

Students who are not citizens of the United States and who need authorization for special billing of tuition and/or fees to foreign institutions, agencies, or sponsors should go to the Foreign Student Adviser with two copies of the sponsorship letter. Special billing authorization is required of students whose bills are to be sent to a third party for payment.

Auditing Courses

Certificate and degree candidates in good standing who are enrolled for a full-time program in the current term may audit one or two courses (except during the summer session) in any division of the University (excluding Barnard College and Teachers College) without charge by filing a formal application in the Registrar's Office (Black Building, Room 138) during the change-of-program period. Applications require (a) the certification of the Registrar that the student is eligible to audit and (b) the approval of the dean of the school in which the courses are offered.

For obvious reasons elementary language courses, laboratory courses, studio courses, applied music courses, and seminars are not open to auditors; other courses may be closed because of space limitations. In no case will an audited course appear on a student's record, nor is it possible to turn an audited course into a credit course by paying the fee after the fact. Courses previously taken for credit may not be audited.

Regulations

According to University regulations, each person whose registration has been completed will be considered a student of the University during the term for which he or she is registered unless the student's connection with the University is officially severed by withdrawal or otherwise. No student registered in any school or college of the University shall at the same time be registered in any other school or college, either of Columbia University or of any other institution, without the specific authorization of the dean or director of the school or college of the University in which the student is first registered.

The privileges of the University are not available to any student until he or she has completed registration. A student who is not officially registered for a University course

may not attend the course unless granted auditing privileges (see Auditing Courses, above). No student may register after the stated period unless he or she obtains written consent of the appropriate dean or director.

The University reserves the right to withhold the privilege of registration or any other University privilege from any person with unpaid indebtedness to the University.

Attendance and Length of Residence

A student in good standing may, for a valid reason, be granted a leave of absence by the dean or director of the division of the University in which he or she is registered.

Students are held accountable for absences incurred owing to late registration.

No Dental Hygiene bachelor's degree will be granted to a student who has not registered for and attended Columbia University courses of instruction equivalent to two academic years of full-time work.

Religious Holidays

It is the policy of the University to respect its members' observance of their major religious holidays. Officers of administration and of instruction responsible for the scheduling of required academic activities or essential services are expected to avoid conflict with such holidays as much as possible. Such activities include examinations, registration, and various deadlines that are a part of the academic calendar. Where scheduling conflicts prove unavoidable, no student will be penalized for absence because of religious reasons, and alternative means will be sought for satisfying the academic requirements involved. If a suitable arrangement cannot be worked out between the student and the instructor involved, students and instructors should consult the appropriate dean or director. If an additional appeal is needed, it may be taken to the Provost. (See *Academic Calendar* for dates of religious holidays.)

Grading System and Requirements for Promotion and Graduation

D.D.S. Program

The following grading system is used: A, excellent; B, good; C, fair; F, failure; YC, year course; P, pass.

There are four standing faculty committees concerned with students' academic performance. These committees are the First-Year Class Committee, the Second-Year Class Committee, the Third-Year Class Committee, and the Fourth-Year Class Committee. These committees meet during each academic year to review student performance and to make decisions related to course failures and to promotions. A student may be admitted to the second, third, or fourth year of the dental curriculum only upon recommendation of the officers of instruction under whom the student has studied during the preceding year. Students are classified for promotion or readmission under the following categories: (1) recommended for advancement; (2) recommended for readmission to the same class; (3) not recommended for advancement or readmission to the same class.

Course failures in all years of the curriculum must be corrected according to the directives of the appropriate class committee. At the discretion of the class committee,

in any year of the curriculum, students may be requested to repeat the year or may be dismissed for poor scholarship. Each class committee may direct a student whose performance is marginal to undertake additional work to correct deficiencies and strengthen overall performance in any discipline.

Students are informed in writing of the academic decisions of each class committee. Students have the right to appeal decisions of the committees. A student who wishes to appeal may request that the concerned committee reverse or alter its decision. If the committee reaffirms the original decision, the student may direct an appeal to the Committee on Appeals of the School.

The School of Dental and Oral Surgery reserves the right to dismiss, or to deny admission, registration, readmission, or graduation to any student who in the judgment of the school is determined to be unsuited to the study or the practice of dentistry.

The degree of Doctor of Dental Surgery (D.D.S.) is awarded upon satisfactory completion of the prescribed curriculum.

The Postdoctoral Certificate Programs

The following grading system is used: A, excellent; B, good; C, fair; F, failure; YC, year course; P, pass.

To be awarded the certificate of training, a candidate must fulfill the following requirements to the satisfaction of the Postdoctoral Committee. The candidate must: (1) complete the prescribed courses and any required thesis; students wishing to be exempted from any of the prescribed courses may request a placement examination in the discipline involved, and the time made available by such exemptions will be planned and supervised by the Program Director for productive utilization; (2) pass prescribed written, oral, or practical examinations at the end of the period of residence; (3) attend special courses, when assigned, at hospitals or institutions affiliated with Columbia University but separate from the Medical Center; (4) any postdoctoral student receiving marginal grades in more than one subject in any one academic year may be advanced or promoted only upon special action and recommendation of the Postgraduate Committee; and, (5) satisfy the Postdoctoral Committee that he or she has completed all the specified requirements both clinical and academic for the certificate of training.

Dental Hygiene Programs

A Dental Hygiene Committee is appointed on an annual basis by the Dean of the School to review student performance and make all decisions concerning promotion, leave of absence, academic probation, and dismissal. This committee consists of faculty members from the Division of Dental Hygiene, the School of Dental and Oral Surgery, and the College of Physicians and Surgeons and the Dean and the Associate Dean for Academic Affairs of the School.

Students are entitled to meet with the Dental Hygiene Committee regarding matters of serious academic problems. Students are informed in writing of the academic decisions of this committee and have the right to appeal decisions of this committee. A student who wishes to appeal may request that the committee reverse or alter a decision. If the committee reaffirms the original decision, the student may direct an appeal to the Committee on Appeals of the School. The School reserves the right to dismiss, or to deny admission, registration, readmission, or graduation to any student who, in the judgment of the School, is judged to be unsuited to the conditions of study in the Division of Dental Hygiene.

The grading system is as follows: A, excellent; B, good; C, fair; D, minimum passing grade (undergraduate only); and F, failure.

Failure to obtain a passing grade is sufficient reason for asking a student to repeat the course or to resign. Students who fail courses with the D prefix are required to repeat them.

A student who fails a course but is permitted to remain in the program is placed on academic probation for the term following the course failure.

The mark of ABS (authorized absence from an examination) is given by the instructor with the approval of the Director. If the ABS is not removed prior to registration for the subsequent term, it will automatically be changed to F.

The mark of INC (incomplete) is given by the instructor with the approval of the Director only to a student who has satisfactorily met the requirements of the course, but who has been compelled for reasons beyond control to postpone certain assigned papers or reports. If the INC is not removed by the end of the next term, it is automatically changed to F. Students with three or more incomplete grades are not permitted to register for the next term.

The mark of P (Pass) has no numerical equivalent and is not calculated in the grade point average. All courses with the D prefix must be taken for letter grade. No more than 6 points of P credit may be credited toward the bachelor's degree. No more than 3 points of P credit may be credited toward the graduate degree.

The mark of R (registered for course, no qualitative grade assigned) is given only to students who indicate, when they register, their intention to take the course for R credit or who file notice of change of intention with the Registrar no later than the last day for change of program. A student who registers for R credit is not required to take the final examination, but may be required to meet any requirements established by the course instructor. Students who elect R credit should understand that degree credit is not awarded and that courses taken for R credit may not be repeated later for examination credit.

The mark of F* (failure due to unofficial withdrawal) is automatically assigned to a student who discontinues attendance in a course without formally notifying the Office of the Registrar. In case of failure due to unofficial withdrawal, the grade will be posted on the student's transcript, but grades of F* are not computed as part of the student's grade point average.

The mark of YC (year course) is given at the end of the first term of a course in which the full year's work must be completed before a qualitative grade is assigned. The grade given at the end of the second term is the grade for the entire course.

The required work—such as examinations, papers, written and oral reports, and class participation—for each course is prescribed solely by the instructor and the division. Most courses include a midterm and a final examination. The midterm is usually scheduled during a regular class period designated by the instructor. All final examinations are held during the official university examination period (see *Academic Calendar*). Final examinations are two, three, or four consecutive hours in length, depending on the point value of the course, the nature of the material, and the requirements of the instructor. Unauthorized absence from an examination automatically results in a failing grade. All examinations are proctored.

A student who has received the mark of ABS in any course must take a special examination before registration for the next term. The ABS is then changed to a letter grade.

A student who fails to receive a passing grade in any dental hygiene course is so

notified by the division and, under circumstances determined by the instructor, may be requested to take a special examination. Special examinations are scheduled at the convenience of the instructor and the division. A student may take only one special examination in a course.

In order to continue in good standing, undergraduate students must maintain a 2.00 (C) average. All course and clinical grades in the major Preventive Oral Health Services sequences must be at the C level or above. No more than 9 points of work with the grade of D are credited toward the bachelor's degree. Credit for D work is accepted only for courses taken at Columbia University.

Graduate students must maintain a 2.7 (B-) average, but no more than 3 points of C or C- may be credited toward the graduate degree.

A student who fails to maintain these standards is placed on academic probation for one term. If grades do not improve during that term, a student may be asked to withdraw from the program.

Academic Discipline

The following statement on student discipline is in the Statutes of the University: "The continuance of each student upon the rolls of the University, the receipt by him [or her] of academic credits, his graduation and the conferring of any degree or the granting of any certificate, shall be subject to the disciplinary powers of the University which shall be free to cancel his registration at any time on any grounds it deems advisable."

Honor Code

Academic and intellectual integrity are accepted principles in the dental profession. An Honor Code, created and administered by the student body, is the formal acknowledgment of this understanding at the School of Dental and Oral Surgery. Each dental student is expected to abide by it.

Conduct

All members of the University community, its visitors and guests, are governed by the Rules of University Conduct which apply to all demonstrations, including rallies and picketing, that take place on or at a University facility. It is the student's responsibility to be aware of all provisions, regulations, and procedures contained in the Rules. Copies are available in the Office of the University Senate, 406 Low Memorial Library.

Changes in Programs of Study (Dental Hygiene)

Once registered, a student may drop or add courses or change sections by filing a formal change-of-program application with the Registrar during the change-of-program period each term (see the Academic Calendar). All such changes must first be approved by the student's adviser before submission to the Registrar.

Students may drop courses *after* the change-of-program period by following the same procedure; however, for individual courses dropped after the last day for change of program in each term, no adjustment of tuition is made. *Failure to attend classes or unofficial notification to the instructor does not constitute dropping a course and results in a failing grade in the course.*

Fees

The following fees are prescribed for the D.D.S. program, for each of the postdoctoral programs, and the dental hygiene programs. Fees are subject to change at any time at the discretion of the Trustees. Fees for partial programs are assessed by the Registrar as provided by the University statutes. Below are the fees for the 1982-1983 academic year.

University charges such as tuition and fees, residence halls and board plans may be paid at the student's convenience during the term. The full amount of any charge may be paid when due without penalty, or payment may be made in installments. If partial payments are made, a monthly finance charge is assessed on amounts not paid by the due date shown on the monthly bill. In either event, however, the student is required to sign at the time of registration a Retail Installment Credit Agreement which sets forth the full terms and conditions of payment. All charges must be paid by the end of the term.

If registration is not completed during the scheduled registration dates, the fees will not be reduced and a prorated late fee will be imposed. Checks for tuition and fees should be made payable to Columbia University.

It is the policy of the University to withhold diplomas, certificates, and transcripts until all financial obligations have been met. Candidates for graduation are urged to pay their bills in full at least one month prior to graduation.

In the event a diploma, certificate, or transcript is withheld because of an unpaid bill, a student will be *required* to use a certified check, money order, or cash to release any of the aforementioned documents.

Tuition

Full-time D.D.S. students, per academic year	\$10,650.00
Full-time certificate students, per academic year	9,630.00
Full-time dental hygiene students	
Autumn and spring terms, per term	3,250.00
Part-time dental hygiene students, for courses, per point	217.00

Health Service and Hospital Insurance Fees

Full-time D.D.S., dental hygiene, and certificate students per year (September 1-August 31)*

Health Service Fee	\$270.00
Hospital Insurance Premium	188.00

The student health service fee contributes to the cost of operating the Student Health Service. The hospital insurance fee pays the annual premium of the Associated Hospital Service of New York. Participation in these programs is compulsory for all full-time students; students who already carry hospital insurance, however, will be charged the health service fee only. Part-time students are encouraged to participate

*Candidates for the M.S. degree who are admitted in January pay approximately one-half the annual hospital insurance premium at their first registration.

in the combined health plan. Upon payment of additional fees, students can acquire hospital insurance for their dependents and the latter are eligible to receive the benefits of the health service program. Students should consult the Office of the Registrar, Black Building, Room 138, for further information on dependent coverage.

The Student Health Service, which holds daily office hours, is on the street level of Bard Haven Tower 1 (60 Haven Avenue).

All entering students are required to have a physical examination at the School of Dental and Oral Surgery Health Service.

Application Fees and Late Fees

Application for admission	\$35.00
Late application, or late renewal of application, for a degree or certificate	50.00

Late Registration Fees

	<i>Full-time</i>	<i>Part-Time</i>
During late registration	\$50.00	\$50.00
Up to 4 weeks after late registration	100.00	60.00
4 to 8 weeks after late registration	150.00	70.00
8 to 12 weeks after late registration	200.00	80.00
Beyond 12 weeks after late registration	250.00	90.00

Fees for Repeated Courses

A student who is required to repeat the work for any one year must pay the full tuition and fees. Repeated courses are paid on a per point basis.

Withdrawal and Adjustment of Fees

Students in good academic standing who are not subject to discipline will always be given an honorable discharge if they wish to withdraw from the University. Students who decide to withdraw from the University must notify the Dean and the Registrar at once. For dental hygiene students who are under twenty-one years of age, their parents or a guardian must first give consent in writing to the Director of the Division of Dental Hygiene.

If a student withdraws from the School, a partial return of the tuition may be authorized by the Registrar. Any adjustment of the tuition that the student has paid is reckoned from the date on which the Registrar receives the student's written notification. Application fees, late fees, and special fees are not subject to rebate. Up to and including the second Saturday after the first date of classes tuition will be retained in the following amount:

Full-time study	\$75.00
Part-time study	40.00

After the second Saturday after the first day of classes in the term, the above amount is retained, plus an additional percentage of the remaining tuition (as indicated in the adjustment schedule), for each week, or part of a week, of the term up to the date on which the student's written notice of withdrawal is received by the Registrar.

Adjustment Schedule

	<i>Minimum Tuition Retained</i>	<i>Percentage of Remaining Tuition Retained</i>
Second Saturday after first day of classes	\$40 or \$75	0
Following week	40 or 75	10
Second following week	40 or 75	20
Third following week	40 or 75	30
Fourth following week	40 or 75	45
Fifth following week	40 or 75	60
Sixth following week	40 or 75	75
Seventh following week	40 or 75	90
Eighth following week	40 or 75	100 (no adjustment)

Application or Renewal of Application for Degrees or Certificates

Degrees and certificates are awarded three times a year—in October, January, and May. A candidate for any Columbia degree or certificate must file an application with the Registrar, Room 138, Black Building, by the date specified in the Academic Calendar. After the dates specified in the Academic Calendar and until the expiration of the *late* filing period for each conferral date a late fee of \$50 will be charged. Applications received *after* the late filing period will automatically be applied to the next conferral date.

If the student fails to earn the degree by the conferral date for which he or she has made application, the student may renew the application. A \$50 late fee will be charged for late filing of renewals of application according to the same schedule as for original applications.

Requests for Transcripts

The Family Educational Rights and Privacy Act of 1974 as amended prohibits the release of educational records by institutions without the specific written consent of the student or alumnus. Students or alumni may request copies of their records by writing to the Office of the Registrar, 630 West 168th Street, New York, N.Y. 10027. *Official* copies will be sent directly by the University only to an official address such as another university, a business firm, or government agency. However, students or alumni may request that unofficial copies of their transcripts (stamped “Student Copy”) be sent directly to them.

There is a charge of \$5 a copy for each transcript requested or \$5 for the first copy plus \$1 for each additional copy when requested at the same time. A maximum of \$20 is charged for fifteen or more transcripts ordered at one time. There is no charge for intrauniversity copies sent between University offices. Transcript requests are processed in the order received and require five to seven working days for processing. Specific deadlines should be mentioned, and checks accompanying requests should be made payable to Columbia University.

Estimated Expenses

D.D.S. Program

Books. The approximate cost of books will be: in the first year, \$770; in the second year, \$600; in the third year, \$200; in the fourth year, \$100. Book lists are posted for each class during registration week. Books may be purchased from the Medical Center Bookstore on the first floor of the College of Physicians and Surgeons. The store is maintained expressly for the convenience of the students and staff of the Medical Center schools and hospitals.

Instruments and Supplies. Each student must purchase from the University a package of instruments necessary for preclinical and clinical dental instruction. The estimated cost of these instruments for students entering in September 1983 is approximately \$5,400, and arrangements have been made to spread the \$5,400 expenditure over the four-year period. In addition to the purchased instruments, students are provided with certain clinical instruments for use during the third and fourth years, at a rental fee of \$50 a year. Rental equipment assigned to students must be returned. A charge is made for loss, breakage, and abnormal wear.

Microscopes. During the first and second years microscopes are provided by the School for a rental of \$60 a year. If a student prefers to provide his or her own microscope, the student must have it approved by the Department of Anatomy. It is recommended that the microscope be of standard make equipped with: (a) quadruple nose piece; (b) Abbe or variable focus condenser; (c) 4x, 10x, 43x objectives; (d) 96x oil immersion lens; (e) 10x wide field eye piece; (f) mechanical stage; (g) attached lamp; (h) carrying case.



The cost of a new microscope ranges from \$600 to \$1,000, and of a reconditioned microscope from \$200 to \$500. Arrangements for approval and for purchase or rental should be made before registration for the opening term.

Variations in these estimated costs may be necessary because of price fluctuations or new developments. These figures are presented as a guide for student planning. Students must *not* present checks made in advance and based on these figures. Details are sent immediately prior to registration.

Lockers. Each entering student is assigned a locker; the student must use a combination lock as prescribed by the School.

Postdoctoral Certificate Programs

Since the prices of books and instruments may fluctuate and since it may be necessary for the School to make substitutions because of supply shortages, the figures given below for instruments and books are only approximate.

<i>Program</i>	<i>Tuition (2 years)</i>	<i>Instruments</i>	<i>Books</i>
Endodontics	\$19,260	See note*	\$275
Orthodontics	19,260		330
Pedodontics (cerebral palsy)	19,260		220
Periodontics	19,260		275

IMPORTANT: According to Treasury decision 6291, under Section 162 of the 1954 Internal Revenue Code, income tax deductions are allowed in many instances for tuition and other educational expenses. Students are referred to the federal ruling on income tax deductions for teachers and other professional people seeking to maintain or improve skills in their employment.

Dental Hygiene Programs

In addition to the tuition and fees, approximate first-year costs are:

Room and Board	\$3,000
Books	350
Instruments and equipment	500
Uniforms and accessories	150

In addition to the tuition and fees given above, approximate second-year costs are:

Room and board	3,000
Books	250
Instruments and equipment	100*

Financial Aid

Students may apply for financial aid through the Financial Aid Office. The Financial Aid Office assists students in the processing of state student loan applications and

**Instrument and expendable supplies purchase is required of students enrolled for graduate certificates and for dental hygiene degrees. Exception: Dental handpieces are rented by dental hygiene degree candidates. An allocation of purchase and rental responsibilities is provided to graduate certificate candidates prior to registration.*

other external forms of student aid. Distribution of school-based aid (Columbia University administered loans and grants) is determined on the basis of need. The School utilizes the Graduate and Professional School Financial Aid Service (GAPSFAS) to determine each student's need. Each student's need is re-examined *annually* to assure continued equitable distribution of aid. Information concerning cost of education, application procedures, forms, and deadlines is sent to the newly admitted student as part of the financial aid booklet.

The heavy schedule of the School makes it difficult for D.D.S. students to undertake outside part-time work during the academic year. Summer work-study positions are available to entering and first-year students. Second- and third-year students performing clinical duties during the summer session are able to participate in the work-study program on a limited basis.

Additional questions may be directed to the Financial Aid Office, Columbia University School of Dental and Oral Surgery, 630 West 168th Street, New York, N.Y. 10032; telephone (212) 694-3478.

Financial aid is defined as those resources available which assist the student in meeting educational costs. These include parental and student resources, state or federally insured student loans, state scholarship or incentive awards, university loans and school grants. The following is a list of the programs in which dental students participate. It is recommended that students consult the financial aid booklet for current updates on these programs.

State Loans

Each state participates in a federal guaranteed student loan program. Students are eligible to apply either directly to their home state or through a state guarantee agency. Applications and program information may be obtained through lenders (banks, credit unions, or pension or welfare funds). Consult the financial aid booklet for updated information.

Columbia University Loans

Student loans are available to Columbia University degree candidates on the basis of financial need. These funds may be used for tuition, fees, books and supplies, and subsistence. Unusual or excessive personal expenses that fall outside the normal student budget may not be included. Student loans are not intended to cover the entire cost of attending the University but are meant, rather, to supplement a student's own resources. Repayment of a Columbia University loan must begin when a student ceases to be registered as a full-time degree candidate at the University and may be extended over a period of ten years, as long as the minimum monthly payment does not fall below \$30.

National Direct Student Loans — Health Professions Loans

These funds are provided through federal legislation. National Direct Student Loans are provided for degree candidates in the Division of Dental Hygiene and the D.D.S. program; Health Professions Loans are for D.D.S. candidates. The assignment of these funds is at the discretion of the School as part of financial aid distribution. Consult the financial aid booklet for details on terms, interest rates, and repayment terms.

New York State Tuition Assistance Plan (T.A.P.)

Any student in the D.D.S. program or in the Division of Dental Hygiene who has been a legal resident of New York State for the year preceding enrollment is eligible for a New York State Tuition Assistance Plan (T.A.P.) award for each term in which he or she is registered as a full-time degree candidate. The amount of this award is based upon the net taxable balance of the student's income and the income of those responsible for his or her support, as reported on the New York State income tax return for the previous calendar year. Further information and application forms can be obtained from the New York State Higher Education Services Corporation, Tower Building, Empire State Plaza, Albany, New York 12255.

Pell Grants

Undergraduate students enrolled for at least a half-time course of study who have not completed a bachelor's degree are eligible to apply for a grant based on financial need. Applications are available from Basic Grants, Box 84, Washington, D.C. 20044.

Postgraduate Periodontics Student Loan Fund

The David Monahan Postgraduate Periodontics Student Loan Fund is used to help periodontic postgraduate students who are in financial need. No interest will be charged while the student is in the program, but will be applied upon graduation at a low rate. Loans are to be repaid within five years of leaving the program. For further information contact the director of the periodontics program.

The Clark Foundation Scholarships

Several partial scholarship grants are available for applicants for the D.D.S. program and students already in the D.D.S. program. Grants are made on a yearly basis to applicants for students who show evidence of high academic standing, outstanding recommendations, and financial need. Consult the financial aid booklet for instructions on application.

Northeastern Society of Orthodontists Student Loan Fund

The Northeastern Society of Orthodontists provides limited loans to second-year postdoctoral students in orthodontics who fulfill certain requirements including financial need. The loans are interest-free while the recipient is enrolled in the program and may be repaid in installments at low interest after graduation. Further information may be obtained from the Secretary of the Society or the Program Director.

American Dental Hygienists' Association Scholarships

The ADHA Foundation offers a scholarship program for full-time students who have a minimum grade point average of 2.50 (on a 4.0 scale) for the following groups:

Certificate Scholarship Program. For students enrolled in a certificate/associate degree program or a bachelor's degree program and entering the second year of the dental hygiene curriculum.

Post-Certificate/Baccalaureate Scholarship Program. For students who are graduates of a certificate/associate degree program and can provide evidence of acceptance as a full-time bachelor's degree candidate in an accredited four-year college or university.

Post-Certificate/Master's Fellowship Program. For students who are licensed dental hygienists and hold a bachelor's degree or will receive a bachelor's degree at the end of the current academic year and can provide evidence of acceptance as a full-time master's degree candidate in a university graduate program.

Information about the ADHA Scholarship Program can be obtained from the American Dental Hygienists' Association Foundation, 444 N. Michigan Avenue, Suite 3400, Chicago, Illinois 60611.

The National Dental Hygienists' Association Scholarship Program

An eligible student must be a member of a minority race (Black, Spanish Surname, American Indian, Mexican American, or Oriental), must have completed at least the first semester of a dental hygiene program with a scholastic average of 2.5 or better, and must show financial need.

Information about the National Dental Hygienists' Association Scholarship Program can be obtained from Scholarship Chairperson, NDHA, Lincoln Land Community College, Shepherd Road, Springfield, Illinois 62708.

School of Dental and Oral Surgery: Teaching Assistant Program

A limited number of teaching assistantships are available to master's degree candidates on a competitive basis. Under this arrangement, a student is assigned to a division of the School of Dental and Oral Surgery for two days a week and carries out functions assigned by that division. In return, the student receives tuition exemption at the rate of 15 points per term and a monthly living stipend. The 32-point master's degree program is completed in ten months under this arrangement. Eligibility is based on being an accepted degree candidate. Additional information can be obtained from the Director of the Division of Dental Hygiene.

Honors

D.D.S. Program

Alpha Omega Scholarship Award. A plaque presented to the graduating student (not necessarily an Alpha Omegan) with the highest scholastic average for the four years of dental studies. First awarded in 1949.

American Academy of Oral Medicine. A certificate and a subscription to the *Journal of Oral Medicine*, awarded to a fourth-year student for excellence in this field.

American Academy of Gold Foil Operators. Certificate awarded to a fourth-year student for excellence in gold foil technique.

American Academy of Dental Radiology. A certificate awarded to a fourth-year student for excellence in this field.

American Academy of Periodontology. A student award certificate and a one-year subscription to the journals published by the American Academy of Periodontology, awarded to an outstanding student in periodontics.

American Association of Oral Pathology. A certificate to the graduating student who has shown the most interest, accomplishment, and promise in the field of oral pathology.

American Association of Orthodontists. A certificate awarded to a student showing exceptional interest and special aptitude in orthodontics.

American College of Dentists, New York Section. An award of \$100 and a plaque or scroll. Presented to a third-year student who is a good all-around student, a member of the student section of the American Dental Association, and who exhibits leadership.

American Dental Society of Anesthesiology, Inc. An award certificate and a one-year subscription to *Anesthesia Progress*, awarded to a fourth-year student who has shown outstanding ability or interest in the field of pain control.

American Society of Dentistry for Children. A certificate, one year of membership in the Society, and a one-year subscription to *The Journal of Dentistry for Children*, awarded to a fourth-year student.

Herbert J. Bartelstone Award in Pharmacology. An award given annually to a member of the graduating class of the College of Physicians and Surgeons and a member of the graduating class of the School of Dental and Oral Surgery who have demonstrated exceptional accomplishments in pharmacology.

William Bailey Dunning Award for Excellence in Periodontology. A medal awarded to the graduating student who is the most proficient in periodontology. First awarded in 1957.

Ella Marie Ewell. A medal awarded to the graduating student who in the best judgment of the faculty has exhibited meritorious service to students, faculty, and the University.

Long Island Academy of Odontology. A certificate awarded to a student showing exceptional proficiency in preventive dentistry.

Arthur Merritt Award. A certificate and award of \$50 to the outstanding fourth-year student in periodontics.

Prize for Excellence in Operative Dentistry. A certificate awarded by the staff of the Division of Operative Dentistry to the graduating student who has shown the greatest proficiency in operative dentistry.

Certificate for Excellence in Pedodontics. A plaque awarded to a graduating student for excellence in pedodontics. Established by the Class of 1929.

Psi Omega Fraternity Award. A plaque presented by the Gamma Lambda Chapter to the graduating student who has displayed exemplary professional conduct.

Rowe-Wiberg Medal. An award made by the Association of Dental Alumni to the graduating student who has shown the greatest proficiency in prosthetic dentistry.

Van Woert Award. A scholarship given to the senior dental student, at the beginning of the year, who has high scholastic attainment and personal character as well as need for financial assistance.

Dental Hygiene Program

Blackerby Award. Awarded by the Dental Hygiene Faculty to the graduate of Program B who demonstrates scholastic honors and leadership potential.

Clinical Proficiency Award. Awarded by the Dental Hygienists' Association of the City of New York to honor the student who demonstrates the greatest proficiency in the clinical practice of dental hygiene. A certificate and payment of dues to cover one year's membership in the American Dental Hygienists' Association and its component and constituent associations is provided annually.

John Opie McCall Award. Awarded to the dental hygiene student who demonstrates proficiency in the area of periodontics.

Patricia McLean Award. Awarded by the Dental Hygiene Alumni Association of Columbia University to the graduate of the Master of Science degree program who demonstrates scholarship and leadership potential.

Sigma Phi Alpha, Lambda Chapter. Sigma Phi Alpha is a National Honor Society established in schools of dental hygiene to recognize scholarship, service, and character among students. Membership is awarded to the top 10 percent of the graduating class, based on scholastic standing and leadership potential.

The Albert H. Stevenson Medal. Awarded by the Dental Society of the State of New York to an honor student from each of the dental hygiene schools in the State. It commemorates the interest and work of Dr. Stevenson in the field of dental hygiene.

The F. J. Swanson Medal. Awarded since 1920 by Dr. F. J. Swanson to the student who demonstrates excellence in theory and practice.

Living Arrangements

Health Sciences Campus

The University seeks to provide housing for all students who are regularly registered for an approved program of full-time study. In recent years, however, a housing shortage has developed in New York, and on occasion the demand has exceeded the number of spaces available. The School of Dental and Oral Surgery, in cooperation with the other divisions of the Health Sciences campus, shares in the available dormitory space. The Central Housing Office of the Health Sciences campus in Bard Hall (50 Haven Avenue) acts as a clearing house for students who are seeking housing on or near the campus. Each year in May this office automatically mails information and an application for housing to each newly enrolled student. Completed applications are forwarded to the chairman of the School Housing Committee for ranking. Priority for placement is given to entering students, with out-of-state students receiving priority over in-state students. In addition to assisting students in securing dormitory space or University-owned apartment housing, the Central Housing Office maintains a current

list of private apartments available in the surrounding neighborhood. Applications and information concerning room availability will be furnished upon request by the Director of the Central Housing Office, Bard Hall, 50 Haven Avenue, New York, N.Y. 10032.

Morningside Campus

Limited housing is provided for undergraduate and graduate men and women who are registered either for an approved program of full-time academic study or for doctoral dissertation research. Requests for information and application forms should be directed to the Residence Halls Assignments Office, 111 Wallach Hall, Columbia University, New York, N.Y. 10027.

Off Campus

The University also operates the Registry of Off-Campus Accommodations, which endeavors to help students find rooms or apartments in rental properties not owned or operated by the University. Listings are varied, change quickly, and are not inspected or approved by the University. It is, therefore, necessary to visit the office, in 115 Hartley Hall, to read the listings and arrange to evaluate personally any that may be of interest. It is advisable to telephone (212) 280-2773 in advance to determine the best time for a visit to the registry.

International House, a privately owned student residence and program center near the campus, has accommodations for about five hundred graduate students, both foreign and American. A cafeteria, recreational facilities, and a varied cultural and professional program are available to members. Contracts through Columbia run from early September to the middle of May, and may be renewed for the summer on request. Rates for a single room in 1982-1983 ranged from \$1,950 to \$2,400 and included meal discounts; students should anticipate a yearly cost-of-living increase. Interested students may apply through the University Residence Halls and/or direct to International House, 500 Riverside Drive, New York, N.Y. 10027.

Student Organizations and Activities

Student Council

In accordance with the plan for all schools in the University, the students are organized under a Student Government Association. Through this organization the students have representation on the Columbia University Student Council, and are eligible for participation in the many activities at the Medical Center and on the Morningside campus.

Omicron Kappa Upsilon

Epsilon Epsilon chapter of Omicron Kappa Upsilon, national honorary fraternity, was chartered in the School of Dental and Oral Surgery in 1934. The purpose of the fraternity is to recognize and honor a maximum of 12 percent of the members of the graduating D.D.S. class on the basis of scholarship, character, and potential for further professional growth and attainments.

The William Jarvie Society

The William Jarvie Society for Dental Research is a nonsecret, dental honor society, membership in which is based on scholarship and interest in dental research, and for which second-, third-, and fourth-year D.D.S. students are eligible. The society was organized in the School of Dental and Oral Surgery in 1920 and named after Dr. William Jarvie because of his wide interest in the promotion of dental research. The society aims to promote the spirit of research among the students.

The Student Dental Association

The Student Dental Association of Columbia University was established in 1960 to provide a professional and social forum in which D.D.S. candidates would participate. The general program of this organization is patterned after the program of local dental societies, in which the graduate dentist contributes to the organized dental profession. Undergraduate dental students are exposed to the democratic process of organization function, policy development, and programming as they meet their responsibilities for supporting the program of their association.

Student American Dental Hygienists' Association

All students in the Division of Dental Hygiene belong to this association, which meets monthly. The purpose is to foster an interest in the work of the American Dental Hygienists' Association and to prepare students for admission after graduation to full and active membership in the professional organizations.

Foreign Students

The staff of the Office of the Foreign Student Adviser on the Morningside Campus provides advice and counseling to foreign students on such matters as housing, personal and financial problems, and regulations of the United States Immigration and Naturalization Service (visas, extensions to stay, work permission, temporary departure from the United States, transfer from Columbia to another school, termination of study). Information about the various foreign student clubs at Columbia and about opportunities to attend conferences, travel in the United States, and participation in community and cultural activities can be obtained from this office. Maps of New York City and discount tickets to concerts and plays are available.

The staff of the Office of Foreign Student Admissions provides information and counseling on University admission, advanced standing, English proficiency examinations, and academic placement.

Postdoctoral Programs

Student organizations in the postdoctoral disciplines are open to membership. The Program Director should be contacted for additional information.

License to Practice

Dentistry

Successful performances in Parts I and II of the examinations given by the Council of the National Board of Dental Examiners are preliminary requirements for licensure in most states of the United States, including New York.

Those seeking licensure solely in New York State may take the final or clinical examinations offered by the Board of Dental Examiners of the State of New York. Successful completion of these examinations entitles the applicant to licensure, assuming the prerequisites of good moral character, citizenship, or declaration of intention of becoming a citizen, are fulfilled. For additional information, request a copy of Handbook 10, *Professional Education*, from the Division of Professional Licensing Services, New York State Department of Education, Albany, N.Y. 12201.

It is advisable, however, that candidates for licensure take the clinical examinations offered by the North East Regional Board of Dental Examiners, the content and format of which are identical to those of New York State. Successful completion of these examinations, together with fulfillment of such minor prerequisites as may be required by individual states, permits licensure in the states of Connecticut, Illinois, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, Ohio, Pennsylvania, Rhode Island, Vermont, and West Virginia, and the District of Columbia, as well as New York State.

Additional information, including applications, format of examinations, and examination schedules are available from the North East Regional Board of Dental Examiners, 4645 Deane Avenue N.E., Washington, D.C. 20019.

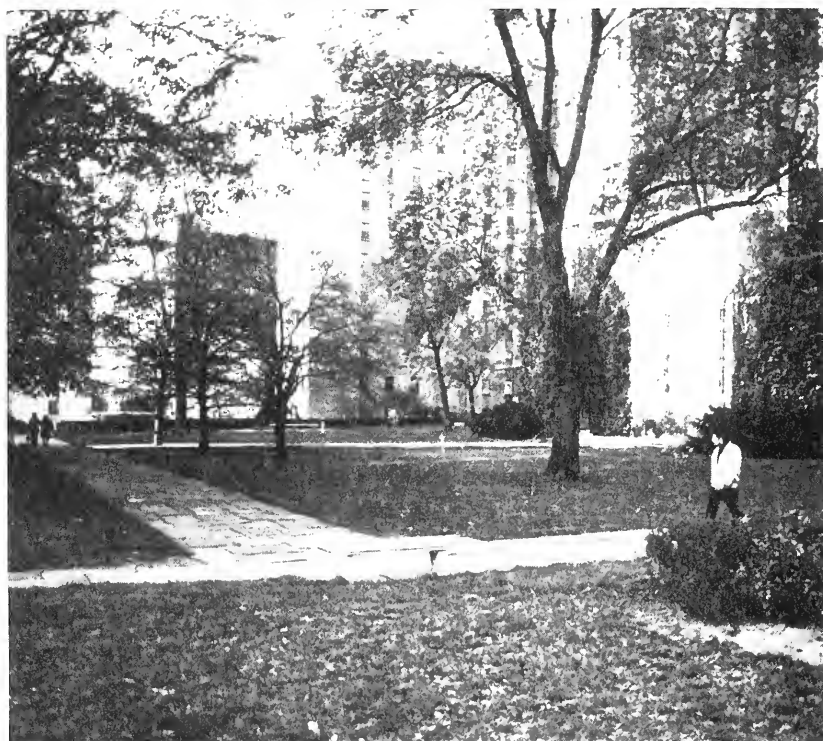
Dental Hygiene

Candidates for licensure by examination in all states are required to achieve passing scores on the National Board Dental Hygiene Examination as a preliminary requirement.

In addition, candidates must take a clinical examination offered by individual states or regional testing agencies, such as the North East Regional Board. Successful completion of this examination, together with fulfillment of minor prerequisites as may be required by individual states, permits licensure in the states listed above under License to Practice Dentistry.

Additional information, including applications, format of examinations, and examination schedules are available from the Council on National Board Examinations, ADA, 211 East Chicago Avenue, Chicago, Ill. 60611; North East Regional Board of Dental Examiners, 2504 Virginia Avenue, N.W. Washington, D.C. 20037; and the State Education Department, Division of Professional Licensing Services, Empire State Plaza, Albany, New York 12230.





Officers of Instruction

Anatomy and Cell Biology

CHAIRMAN: Professor Michael D. Gershon

RICHARD T. AMBRON. *Assistant Professor of Anatomy and Cell Biology* B.S., Villanova, 1964; Ph.D., Temple, 1971

ERNEST W. APRIL. *Associate Professor of Anatomy and Cell Biology* B.S., Tufts, 1961; Ph.D., Columbia, 1969

PHILIP W. BRANDT. *Associate Professor of Anatomy and Cell Biology* B.A., Swarthmore, 1952; M.S., Pennsylvania, 1957; Ph.D., Columbia, 1960

ARLINE D. DEITCH. *Associate Professor of Clinical Pathology (in Anatomy and Cell Biology)* B.A., Brooklyn, 1944; M.A., Columbia, 1946; Ph.D., 1954

STEPHEN B. DOTY. *Associate Professor of Anatomy and Cell Biology (in Orthopedic Surgery)* B.A., Rice, 1961; M.A., 1963; Ph.D., 1965

ABRAHAM B. EASTWOOD. *Assistant Professor of Anatomy and Cell Biology (in Neurology)* B.S., Muhlenberg, 1965; M.S. Lehigh, 1967; Ph.D., 1971

MICHAEL D. GERSHON. *Professor of Anatomy and Cell Biology* B.A., Cornell, 1958; M.D., 1963

MARIE-FRANCE MAYLIE-PFENNINGER. *Assistant Professor of Anatomy and Cell Biology* Lic.Sci., Marseilles, 1963; Dr. Spécialité (Biochemistry), 1967; Ph.D., 1972

MELVIN L. MOSS. *Professor of Anatomy and Cell Biology and Professor of Dentistry* B.A., New York University, 1942; D.D.S., Columbia, 1946; Ph.D., 1954

LETTY MOSS-SALENTIJN. *Associate Professor of Dentistry (Orofacial Development)* D.D.S., Utrecht, 1967; Ph.D., 1976

CHARLES R. NOBACK. *Professor of Anatomy and Cell Biology* B.S., Cornell, 1936; M.S., New York University, 1938; Ph.D., Minnesota, 1942

ELADIO A. NUNEZ. *Associate Professor of Anatomy and Cell Biology* B.S., St. John's (New York), 1951; M.S., 1953; Ph.D., New York University, 1964

KARL H. PFENNINGER. *Professor of Anatomy and Cell Biology* M.D., Zurich, 1971

TUAN DUC PHAM. *Assistant Professor of Anatomy and Cell Biology and of Pharmacology* B.S., St. Edward's (Texas), 1962; M.S., Loyola, 1967; M.Phil., Ph.D., Columbia, 1975

SAMUEL ROSNER. *Adjunct Professor of Anatomy and Cell Biology* M.D., Royal College of Physicians and Surgeons (Edinburgh), 1940; F.I.C.S., 1951

TAUBE P. ROTHMAN. *Assistant Professor of Anatomy and Cell Biology* B.A., City College, 1969, Ph.D., Cornell, 1975

ANN-JUDITH SILVERMAN. *Associate Professor of Anatomy and Cell Biology*
B.A., California (Los Angeles), 1967; Ph.D., 1970

VIRGINIA M. TENNYSON. *Professor of Anatomy and Cell Biology and Pathology*
B.S., Pennsylvania State, 1946; M.S., Baylor, 1956; Ph.D., Columbia, 1960

KLAUDIUSZ R. WEISS. *Assistant Professor of Anatomy and Cell Biology (in Psychiatry, the Center for Neurobiology and Behavior, and the School of Dental and Oral Surgery)*
M.A. Warsaw, 1967, Ph.D., State University of New York (Stony Brook), 1973

Anesthesiology

CHAIRMAN: Professor Henrik H. Bendixen

HENRIK H. BENDIXEN. *Professor of Anesthesiology*
M.D., Copenhagen, 1951

LESTER C. MARK. *Professor of Anesthesiology*
M.D., Toronto, 1941

S. H. NGAI. *Professor of Anesthesiology*
M.B., National Central (China), 1944

Biochemistry

CHAIRMAN: Professor Isidore S. Edelman

FREDERICK W. ALT. *Assistant Professor of Biochemistry*
B.Sc., Brandeis, 1971; Ph.D., Stanford, 1978

RICHARD AXEL. *Professor of Biochemistry and Pathology*
B.A., Columbia, 1967; M.D., Johns Hopkins, 1970

HAGEN P. BAYLEY. *Assistant Professor of Biochemistry*
B.Sc., Oxford, 1974; Ph.D., Harvard, 1979

REINHOLD BENESCH. *Professor of Biochemistry*
B.Sc., Leeds, 1941; M.Sc., 1945; Ph.D., Northwestern, 1950

RUTH E. BENESCH. *Professor of Biochemistry*
B.Sc., London, 1946; Ph.D., Northwestern, 1951

GERARD BRICOGNE. *Assistant Professor of Biochemistry*
Maitrise de Mathematiques, Nancy (France), 1971; Diplome d'Ingenieur, 1972; Ph.D., Cambridge (England), 1977

ROGER M. BURNETT. *Associate Professor of Biochemistry*
B.Sc., London, 1964; Ph.D., Purdue, 1970

ISIDORE S. EDELMAN. *Robert Wood Johnson, Jr., Professor of Biochemistry*
B.A., Indiana, 1941; M.D., 1944

MAX A. EISENBERG. *Professor of Biochemistry*
B.A., Brooklyn, 1938; M.S., New York University, 1941; Ph.D., Duke, 1950

PHILIP FEIGELSON. *Professor of Biochemistry (assigned to Cancer Research)*
B.S., Queens (New York) 1947; Ph.D., Wisconsin, 1951

STEPHEN GOFF. *Assistant Professor of Biochemistry*
B.A., Amherst, 1973; Ph.D., Stanford, 1978

ALLEN M. GOLD. *Associate Professor of Biochemistry*
B.A., Chicago, 1950; Ph.D., Harvard, 1955

ROBERT FRANK GOLDBERGER. *Professor of Biochemistry*
B.A., Harvard, 1954; M.D., New York University, 1958

DEZIDER GRUNBERGER. *Associate Professor of Biochemistry (assigned to Cancer Research)*
M.Sc., Technical University (Prague), 1950; Ph.D., Czechoslovak Academy of Sciences, 1956; Sc.D., 1968

BARRY HONIG. *Professor of Biochemistry*
B.Sc., Polytechnic Institute of Brooklyn, 1963; M.A., Johns Hopkins, 1964; Ph.D., Weizmann Institute of Science, 1968

ARTHUR KARLIN. *Professor of Biochemistry and Neurology*
B.A., Swarthmore, 1957; Ph.D., Rockefeller, 1962

ALVIN I. KRASNA. *Professor of Biochemistry*
B.A., Yeshiva, 1950; Ph.D., Columbia, 1955

SEYMOUR LIEBERMAN. *Professor of Biochemistry (assigned to Obstetrics and Gynecology)*
B.S., Brooklyn, 1936; M.S., Illinois, 1937; Ph.D., Stanford, 1941

BARBARA W. LOW. *Professor of Biochemistry*
B.A., Oxford, 1942; M.A., 1946; D.Phil., 1948

LEE MAKOWSKI. *Assistant Professor of Biochemistry*
B.S., Brown, 1971; M.S., Massachusetts Institute of Technology, 1973; Ph.D., 1976

MAURICE RAPPORT. *Professor of Biochemistry (assigned to Psychiatry)*
B.S., College of the City of New York, 1940; Ph.D., California Institute of Technology, 1946

JAMES LEWIS ROBERTS. *Assistant Professor of Biochemistry (Center for Reproductive Sciences)*
B.S., Colorado State, 1973; Ph.D., Oregon, 1977

SOL SPIEGELMAN. *University Professor (Director of the Institute of Cancer Research) (also Human Genetics)*
B.S., College of the City of New York, 1939; M.S., Columbia, 1942; Ph.D., Washington (St. Louis), 1944

PARITHYCHERY R. SRINIVASAN. *Professor of Biochemistry*
B.Sc., Madras, 1946; Ph.D., 1953

BONNIE A. WALLACE. *Assistant Professor of Biochemistry*
B.S., Rensselaer Polytechnic Institute, 1973; M.Phil., Yale, 1975; Ph.D., 1977

Dental and Oral Surgery

CHAIRMAN: Professor Allan J. Formicola

Behavioral Science

DIRECTOR: Professor Stephen Wotman

JAY K. WEISS. *Associate Clinical Professor of Dentistry*
B.A., Harvard, 1948; D.M.D., Tufts, 1952

STEPHEN WOTMAN. *Associate Professor of Dentistry (in Public Health and Health Administration)*
D.D.S., Pennsylvania, 1956

Community Health

ACTING DIRECTOR: Professor Bernard B. Tolpin

JULIUS R. BERGER. *Adjunct Associate Professor of Dentistry*
B.S., College of the City of New York, 1961; D.D.S., Buffalo, 1965

RONALD P. BURAKOFF. *Adjunct Assistant Professor of Dentistry*
B.Sc., McGill, 1969; D.M.D., Tufts, 1973; M.P.H., North Carolina, 1974

NEAL A. DEMBY. *Associate Clinical Professor of Dentistry*
B.A., Rutgers, 1964; D.M.D., Pennsylvania, 1968

JEFFREY GOLD. *Assistant Clinical Professor of Dentistry*
B.A., Brooklyn, 1965; D.D.S., New York University, 1969

ARTHUR D. GOLDMAN. *Adjunct Assistant Professor of Dentistry*
D.M.D., Tufts, 1957

ARNOLD V. HOMER. *Adjunct Assistant Professor of Dentistry*
B.A., Brooklyn, 1960; D.D.S., Howard, 1968

HILTON O. HOSANNAH. *Assistant Clinical Professor of Dentistry*
B.S., Howard, 1952; D.D.S., 1958; M.P.H., Columbia, 1970

LEON E. JOSEY. *Adjunct Assistant Professor of Dentistry*
B.S., Howard, 1954; D.D.S., 1960

JAMES E. McINTOSH. *Adjunct Assistant Professor of Dentistry*
B.A., Missouri, 1965; D.D.S., Meharry, 1969; M.P.H., Columbia, 1975

MELVIN N. RASKIN. *Adjunct Assistant Professor of Dentistry*
B.S., New Hampshire, 1938; D.M.D., Tufts, 1943

SANFORD S. ROTHSTEIN. *Adjunct Assistant Professor of Dentistry*
B.S., Massachusetts, 1957; D.D.S., Temple, 1962; M.P.H., Columbia, 1980

IONA I. SABEV-NIKOW. *Adjunct Assistant Professor of Dentistry*
D.D.S., Howard, 1968; M.P.H., Columbia, 1971

WILLIAM R. SMITHEA. *Adjunct Associate Professor of Dentistry*
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KUNG-MING JAN. *Assistant Professor of Physiology and of Medicine*

M.B., National Taiwan, 1967; Ph.D., Columbia, 1971

ERIC R. KANDEL. *Professor of Physiology and of Psychiatry*

B.A., Harvard, 1952; M.D., New York University, 1956

JOHN D. KOESTER. *Senior Research Associate*

B.A., Wooster, 1965; Ph.D., Columbia, 1971

IRVING KUPFERMANN. *Professor of Physiology and of Psychiatry (in Center for Neurobiology and Behavior)*

Ph.D., Chicago, 1964

HERBERT H. LIPOWSKY. *Assistant Professor of Physiology*

M.S., Polytechnic Institute of Brooklyn, 1968; Ph.D., California (San Diego), 1975

WILLIAM L. NASTUK. *Professor of Physiology*

B.S., Rutgers, 1939; Ph.D., 1945

HUGH N. NELLANS. *Assistant Professor of Physiology (in Medicine)*

B.A., Lawrence, 1967; Ph.D., Yale, 1971

MERO R. NOCENTI. *Professor of Physiology*

B.A., West Virginia, 1951; M.S., 1952; Ph.D., Rutgers, 1955

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B.S., New York University, 1946; M.D., 1949

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B.A., Columbia, 1954; M.D., New York University, 1959; Ph.D., Rockefeller, 1964

SAMUEL C. SILVERSTEIN. *John C. Dalton Professor of Physiology*

B.A., Dartmouth, 1958; M.D., Einstein, 1963

Psychiatry

ACTING CHAIRMAN: Professor Sidney Malitz

STEPHEN K. FIRESTEIN. *Assistant Clinical Professor of Psychiatry*

B.A., Columbia, 1947; M.D., 1951

FRANK S. JEWETT. *Assistant Clinical Professor of Psychiatry (in Dentistry)*

B.A., Yale, 1953; M.D., Columbia, 1957

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B.S., Tulane, 1943; M.D., Chicago, 1946

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B.S., Yale, 1948; M.D., State University of New York (Downstate), 1951; M.P.H., Harvard, 1964

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B.S., College of the City of New York, 1937; M.A., George Washington, 1946; Ph.D. 1954

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B.S., Western Reserve, 1942; D.D.S., 1944; B.A., Brooklyn, 1958; M.P.H., Columbia, 1957

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D.D.S., Pennsylvania, 1956

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CHAIRMAN: Professor Keith Reemtsma

KEITH REEMTSMA. *Professor of Surgery*
B.S., Idaho State, 1945; M.D., Pennsylvania, 1949

Dental and Oral Surgery: Other Officers of Instruction

ASSOCIATES

May Parisien, M.D. (*Orthopedic Pathology*)
Hedwig Zwiethnig-Rotterdam, M.D. (*Anatomy*)

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John D. Koester, Ph.D. (*Physiology*)
Spyros M. Vratsanos, Ph.D.
Ephraim Weinstein, D.D.S.

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 Cheryl F. Dreyfus, Ph.D. (*Anatomy*)
 Julia M. Einbinder, M.S.
 Solomon L. Katz, D.D.S.
 Moshe Rosen, Ph.D. (*Pathology*)
 Herbert F. Silvers, D.D.S.
 Bernard Telsey, D.D.S.

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 Jeffrey G. Apfel, D.D.S.
 Allen F. Avrutin, D.D.S., M.P.H.
 Michael J. Barbieri, D.D.S.
 Andrew E. Baron, D.D.S.
 Charlene S. Berkman, D.M.D.
 Marc H. Berley, D.M.D.
 Todd J. Berman, D.M.D.
 Robert J. Bird, Jr., D.D.S.
 Alan P. Blondman, D.D.S.
 Dennis P. Bohlin, D.D.S.
 Valerie R. Brest, D.D.S.
 Henry M. Cabri, D.D.S.
 Lazarus Camesas, D.D.S.
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 Henry Chang, Jr., D.D.S.
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 Mark Phillip Coron, D.D.S.
 John J. Cuskley, D.D.S.
 Marguerite M. Duby, M.D. (*Pathology*)
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 Gerald E. Finke, D.D.S.
 John M. Fox, D.D.S.
 Joan L. Galterio, D.D.S.
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 Michael Jay Goldberg, D.M.D.
 Bruce Goldenberg, D.D.S.
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 Jacques Honig, D.D.S.
 (*at St. Luke's Hospital*)
 Elizabeth E. Hume, D.D.S.
 James Gregory Hunt, D.D.S.
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 Lucian Kahan, D.D.S.
 Claudia Kaplan, D.D.S.
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 Bernard Keller, D.D.S.
 Barbara Knowles, D.D.S.

Justin R. Kolnick, D.D.S.
 Steven F. Kornhaber, D.D.S.
 John F. Kosinski, D.D.S.
 Allen C. Kozin, D.D.S.
 Arthur D. Krinsky, D.D.S.
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 Natalie A. Marchalonis, D.D.S.
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 Vincent E. Mascia, D.D.S.
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 Carla C. Mussa, D.D.S.
 Milagros F. Ona-Sarino, M.D.
 (*Pathology*)
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 Joel L. Strom, D.D.S.
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 (*at The Roosevelt Hospital*)
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 Noel N. Weekes, M.D. (*Pathology*)
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 Ben Yeh, D.M.D.
 Peter J. Zegarelli, D.D.S.

INSTRUCTOR IN CLINICAL
DENTISTRY

Arthur F. Johnson

LECTURERS

Michael Baden, M.D. (*Pathology*)
 Charles E. Barr, D.D.S., M.S.
 Paul Brown, M.D. (*Pathology*)

LECTURERS (continued)

Frank V. Celenza, D.D.S., M.S.D.
 Angelo Chiarenza, D.D.S.
 Valerie Jayne Cooke, M.S.
 Burney M. Croll, D.D.S.
 Hyman Donnenfeld, M.D. (*Pathology*)
 Stanley L. Gibbs, D.D.S.
 Brigitte Graf-Pinthus, D.M.D.
 Dale E. Hopp, D.D.S.
 Janis V. Klavins, M.D. (*Pathology*)
 Nathaniel H. Lenchner, D.D.S.
 George F. Lindig, D.D.S.
 Marvin Mansky, D.D.S.
 Mata K. Nikias, D.D.S., M.P.H., Ph.D.
 Anthony Ricciardi, D.D.S.
 Howard J. Ruderman, D.D.S.
 Kenneth L. Siegel, D.D.S.
 David Spain, M.D. (*Pathology*)
 Stephen D. Stein, D.D.S.

LECTURERS (continued)

Spyros M. Vratsanos, Ph.D.

SPECIAL LECTURERS

Lester R. Cahn, D.D.S. (*Pathology*)
 David Cowen, M.D. (*Pathology*)
 C. Zent Garber, M.D. (*Pathology*)
 Raffael Lattes, M.D., Med. Sc.D.
 (*Pathology*)
 Abner Wolf, Ph.D. (*Pathology*)
 Edward V. Zegarelli, D.D.S., M.S.

STAFF ASSOCIATES

Maria K. Petropoulou, D.D.S., M.P.H.
 Gladys Teitelman de Pinczuk, Ph.D.
 (*Anatomy*)

ASSISTANT

Mitchell L. Beck, D.D.S.

The Presbyterian Hospital Dental Service

DIRECTOR: Allan J. Formicola

ASSOCIATE DIRECTOR: Steven M. Roser

CONSULTANTS: Carl R. Oman, Albin R. Seidel

CONSULTANTS EMERITUS: Joseph Leavitt, Solomon N. Rosenstein, Edward V. Zegarelli

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ASSOCIATE ATTENDING DENTAL SURGEONS: Harold Baurmash, Sebastian A. Bruno, Stanislaw H. Brzustowicz, Victor S. Caronia, Kourken A. Daglian, David Kaplan, Austin H. Kutscher, Joseph J. Marbach, S. Abel Moreinis, Melvin L. Morris, John D. Piro, Steven M. Roser, Fred Rothenberg, Daniel D. Schube, Murray Schwartz, Steven S. Scrivani, Boaz M. Shattan, Ennio L. Uccellani, Bernard Wasserman, Stephen Wotman, David J. Zegarelli

ASSISTANT ATTENDING DENTAL SURGEONS: Jacob Abelson, Jerome Bartwink, Mitchell Beck, John I. Cardillo, Thomas J. Cleary, Donald Cohen, Mark S. Cohen, Martin J. Davis, Joseph A. DeJulia, Gerald M. Drew, Daniel Fine, Robert Gabriele, Michael Goldberg, Steven J. Goldberg, Robert S. Goldman, Alvin J. Grayson, Wesley Halpert, Ian Yung-Cheng Hu, Howard Israel, Paul R. Kamen, Robert A. Koweeck, David M. Kritchman, Eugene P. LaSota, Joseph Luban, Guy D. Metcalf, Dennis N. Morea, Ronnie Myers, Paul N. Rogow, Steven N. Rosenberg, Marc A. Rosenblum, Louis I. Rubins, Morton J. Stern, Robert N. Stuchell, Dante M. Torrese, John R. Varoscak, Bertram J. Weissman, Maxwell Widrow, Jerome A. Zane, Albert N. Zengo

ASSISTANT DENTISTS: Todd Berman, Armando Fernandez, Claudia Kaplan, Gary W. Stern



Academic Calendar, 1983–1984, 1984–1985

Major Religious Holidays

For a statement of University policy regarding religious holidays, see *Registration, Expenses, and Financial Aid—Religious Holidays*.

Some of the major holidays occurring on weekdays are listed below. The Jewish holy days begin at sundown of the preceding day.

1983–1984

Thursday, Friday, September 8, 9	Rosh Hashanah
Saturday, September 17	Yom Kippur
Thursday, Friday, September 22, 23	First day of Succoth
Thursday, Friday, September 29, 30	Concluding days of Succoth
Tuesday, Wednesday, April 17, 18	First days of Passover
Monday, Tuesday, April 23, 24	Concluding days of Passover
Friday, April 20	Good Friday
Wednesday, Thursday, June 6, 7	Shavuoth
Not yet announced	Id al Fitr
Not yet announced	Id al Adha

1984–1985

Thursday, Friday, September 27, 28	Rosh Hashanah
Saturday, October 6	Yom Kippur
Thursday, Friday, October 11, 12	First days of Succoth
Thursday, Friday, October 18, 19	Concluding days of Succoth
Friday, April 5	Good Friday
Saturday, April 6	First day of Passover
Friday, Saturday, April 12–13	Concluding days of Passover
Sunday, Monday, May 26, 27	Shavuoth
Not yet announced	Id al Fitr
Not yet announced	Id al Adha

Autumn Term 1983

A **late fee** must be paid by students who apply or reapply **after Monday, August 1**, for October degrees and certificates; **after Friday, November 4**, for January degrees and certificates.

AUGUST

1 Monday. Last day to apply for October degrees and certificates (see September 7).

29–31 Monday–Wednesday. First-year Class Orientation, Class of 1987, D.D.S. degree candidates.

*Students allowed to register after the period specified must pay a late fee.

AUGUST

30 Tuesday, through September 1, Thursday.* Registration for the academic year for first- and second-year D.D.S. degree candidates.

SEPTEMBER

1 Thursday. First term begins for first- and second-year D.D.S. degree candidates.

1-2 Thursday-Friday.* Registration for the academic year for third- and fourth-year D.D.S. degree candidates and for students in the Division of Dental Hygiene.

5 **Monday. Labor Day. University holiday.**

6 Tuesday. Classes begin for third- and fourth-year D.D.S. degree candidates and for students in the Division of Dental Hygiene.

7 Wednesday. Last day to file late application for October degrees and certificates. Registration for first-year postdoctoral orthodontics students.

8 Thursday. First term begins for first-year postdoctoral orthodontics students.

12 Monday. First day to change programs and to apply to audit courses.

16 Friday.* Registration for the academic year for all students in the postdoctoral programs (except for first-year orthodontics students). Last day to change programs and to apply to audit courses. **No adjustment of fees for individual courses dropped after this date.**

19 Monday. First term begins for all students in the postdoctoral programs (except for first-year postdoctoral orthodontics students).

OCTOBER

26 Wednesday. Award of October degrees and certificates.

NOVEMBER

4 Friday. Last day to apply or reapply for all January degrees and certificates (see December 9).

5 Saturday. Application deadline for National Board Examination of December 5.

7 **Monday. Academic holiday for students in the Division of Dental Hygiene.**

8 **Tuesday. Election Day. University holiday.**

17 Thursday. Last day to drop individual courses for students in the Division of Dental Hygiene.

18 Friday. End of classes for third- and fourth-year D.D.S. degree candidates.

21 Monday. Classes begin for third- and fourth-year D.D.S. degree candidates.

24-27 **Thursday-Sunday. Thanksgiving holidays for all students in all programs.**

*Students allowed to register after the period specified must pay a late fee.

DECEMBER

5 Monday. Part I, National Board Examination; Dental Hygiene National Board Examination.

5-6 Monday-Tuesday. Part II, National Board Examination.

9 Friday. Last day to file late application for January degrees and certificates.

12 Monday. Classes end for students in the Division of Dental Hygiene.

17 **Saturday, through January 3, 1984, Tuesday. Winter holidays for D.D.S. degree candidates and for all students in the postdoctoral programs.**

20 **Tuesday, through January 12, 1984, Thursday. Winter holidays for students in the Division of Dental Hygiene.**

Spring Term 1984

A **late fee** must be paid by students who apply or reapply **after Tuesday, February 21**, for May degrees and certificates.

JANUARY

11 Wednesday. First term ends for all postdoctoral students.

12 Thursday. Second term begins for all postdoctoral students.

13 Friday. First term ends for first- and second-year D.D.S. degree candidates.

13 Friday.* Registration for students in the Division of Dental Hygiene.

16 Monday. Second term begins for first- and second-year D.D.S. degree candidates. Classes begin for students in the Division of Dental Hygiene.

25 Wednesday. Award of January degrees and certificates.

26 Thursday. First day to change programs and to apply to audit courses.

FEBRUARY

1 Wednesday. Last day to change programs and to apply to audit courses. **No adjustment of fees for individual courses dropped after this date.**

17 Friday. Classes end for third- and fourth-year D.D.S. degree candidates.

20 **Monday. Washington's Birthday observed. Academic holiday.**

21 Tuesday. Classes begin for third- and fourth-year D.D.S. degree candidates. Last day to apply or reapply for all May degrees and certificates (see April 2).

MARCH

3 Saturday. Application deadline for Part II, National Board Examination of April 2-3.

4 Sunday. Annual Commemoration Service in St. Paul's Chapel.

11-18 **Sunday-Sunday. Spring holidays for students in the Division of Dental Hygiene.**

22 Thursday. Last day to drop individual courses for students in the Division of Dental Hygiene.

*Students allowed to register after the period specified must pay a late fee.



APRIL

2 Monday. Last day to file late application for May degrees and certificates. National Board Examination for Dental Hygiene Division students.

2-3 Monday-Tuesday. Part II, National Board Examination.

14-22 **Saturday-Sunday. Spring holidays for second-, third-, and fourth-year D.D.S. degree candidates and for students in the Division of Dental Hygiene.**

14-29 **Saturday-Sunday. Spring holidays for first-year D.D.S. degree candidates.**

30 Monday. Classes end for students in the Division of Dental Hygiene.

MAY

9 Wednesday. Spring term ends for all postdoctoral dental students.

11 Friday. Classes end for third- and fourth-year D.D.S. degree candidates.

Commencement 1984

MAY

13 Sunday. Baccalaureate Service.

16 **Wednesday. Conferral of May degrees and certificates.**

17 Thursday. Conferring of awards, School of Dental and Oral Surgery.

Summer Session 1984

MAY

- 10 Thursday. Summer session begins for postdoctoral orthodontics students.
- 18 Friday. Second term ends for second-year D.D.S. degree candidates.
- 21 Monday. Summer Sessions II and III begin.
- 28 **Monday. Memorial Day observed. University holiday.**

JUNE

- 8 Friday. Second term ends for first-year D.D.S. degree candidates.
- 9 Saturday. Application deadline for Part I, National Board Examination of July 9.
- 27 Wednesday. Second term ends for second-year postdoctoral students.

JULY

- 4 **Wednesday. Independence Day. University holiday.**
- 9 Monday. Part I, National Board Examination. National Board Dental Hygiene Examinations.
- 13 Friday. End of Summer Sessions II and III.
- 27 Friday. Summer term ends for first-year postdoctoral orthodontics students.

Autumn Term 1984

A **late fee** must be paid by students who apply or reapply **after Wednesday, August 1**, for October degrees and certificates; **after Friday, November 2**, for January degrees and certificates.

AUGUST

- 1 Wednesday. Last day to apply for October degrees and certificates (see September 6).
- 29-30 Wednesday-Thursday.* Registration for the academic year for first- and second-year D.D.S. degree candidates.
- 29-31 Wednesday-Friday. First-year Class Orientation, Class of 1988, D.D.S. degree candidates.

SEPTEMBER

- 3 **Monday. Labor Day. University holiday.**
- 4 Tuesday. First term begins for first- and second-year D.D.S. degree candidates.
- 4-5 Tuesday-Wednesday.* Registration for students in the Division of Dental Hygiene.
- 5 Wednesday.* Registration for the academic year for first-year students in the postdoctoral orthodontics program.

*Students allowed to register after the period specified must pay a late fee.

SEPTEMBER

6 Thursday. First term begins for first-year postdoctoral orthodontics students. Last day to file late application for October degrees and certificates. Classes begin for students in the Division of Dental Hygiene.

6-7 Thursday-Friday.* Registration for the academic year for third- and fourth-year D.D.S. degree candidates.

10 Monday. Classes begin for third- and fourth-year D.D.S. degree candidates. First day to change programs and to apply to audit courses.

13 Thursday. First term begins for second-year postdoctoral orthodontics students.

14 Friday.* Registration for the academic year for all students in the postdoctoral programs (except for first-year orthodontics students). Last day to change programs and to apply to audit courses. **No adjustment of fees for individual courses dropped after this date.**

17 Monday. First term begins for all students in the postdoctoral programs (except for first-year postdoctoral orthodontics students).

OCTOBER

24 Wednesday. Award of October degrees and certificates.

NOVEMBER

2 Friday. Last day to apply or reapply for all January degrees and certificates (see December 7).

3 Saturday. Application deadline for National Board Examination of December 3-4.

5 **Monday. Academic holiday for students in the Division of Dental Hygiene.**

6 **Tuesday. Election Day. University holiday.**

15 Thursday. Last day to drop individual courses for students in the Division of Dental Hygiene.

21 Wednesday. End of classes for third- and fourth-year D.D.S. degree candidates.

22-25 **Thursday-Sunday. Thanksgiving holidays for all students in all programs.**

26 Monday. Second term begins for third- and fourth-year D.D.S. degree candidates.

DECEMBER

3 Monday. Part I, National Board Examination. National Board Dental Hygiene Examinations.

3-4 Monday-Tuesday. Part II, National Board Examination.

7 Friday. Last day to file late application for January degrees and certificates.

*Students allowed to register after the period specified must pay a late fee.

DECEMBER

- 12 Wednesday. Classes end for students in the Division of Dental Hygiene.
- 20 **Thursday, through January 11, 1985, Friday. Winter holidays for students in the Division of Dental Hygiene.**
- 22 **Saturday, through January 6, 1985, Sunday. Winter holidays for D.D.S. degree candidates and for all students in the postdoctoral programs.**

Spring Term 1985

A **late fee** must be paid by students who apply or reapply **after Monday, February 18**, for May degrees and certificates.

JANUARY

- 11 Friday.* Registration for students in the Division of Dental Hygiene.
- 14 Monday. Classes begin for students in the Division of Dental Hygiene.
- 16 Wednesday. First term ends for all postdoctoral students.
- 17 Thursday. Second term begins for all postdoctoral students.
- 18 Friday. First term ends for first- and second-year D.D.S. degree candidates.
- 21 Monday. Second term begins for first- and second-year D.D.S. degree candidates.
- 23 Wednesday. Award of January degrees and certificates.
- 24 Thursday. First day to change programs and to apply to audit courses.
- 30 Wednesday. Last day to change programs and to apply to audit courses. **No adjustment of fees for individual courses dropped after this date.**

FEBRUARY

- 18 **Monday. Washington's Birthday observed. Academic holiday.** Last day to apply or reapply for all May degrees and certificates (see April 3).
- 22 Friday. Classes end for third- and fourth-year D.D.S. degree candidates.
- 25 Monday. Classes begin for third- and fourth-year D.D.S. degree candidates.

MARCH

- 2 Sunday. Annual Commemoration Service in St. Paul's Chapel.
- 9-16 **Sunday-Sunday. Spring holidays for students in the Division of Dental Hygiene.**
- 21 Thursday. Last day to drop individual courses for students in the Division of Dental Hygiene.
- 30 **Saturday, through April 7, Sunday. Spring holidays for D.D.S. degree candidates.**

*Students allowed to register after the period specified must pay a late fee.

APRIL

- 3 Wednesday. Last day to file late application for May degrees and certificates.
- 29 Monday. Classes end for students in the Division of Dental Hygiene.

MAY

- 10 Friday. Classes end for fourth-year D.D.S. degree candidates.
- 15 Wednesday. Classes end for all postdoctoral dental students.

Commencement 1985**MAY**

- 12 Sunday. Baccalaureate Service.
- 15 **Wednesday. Conferral of May degrees and certificates.**
- 16 Thursday. Conferring of awards, School of Dental and Oral Surgery.

Summer Session**MAY**

- 16 Thursday. Summer Session begins for postdoctoral orthodontics students.
- 17 Friday. Classes end for third-year D.D.S. degree candidates. Second term ends for second-year D.D.S. degree candidates.
- 27 Monday. Summer Sessions II and III begin.
- 27 **Monday, Memorial Day observed. University holiday.**

JUNE

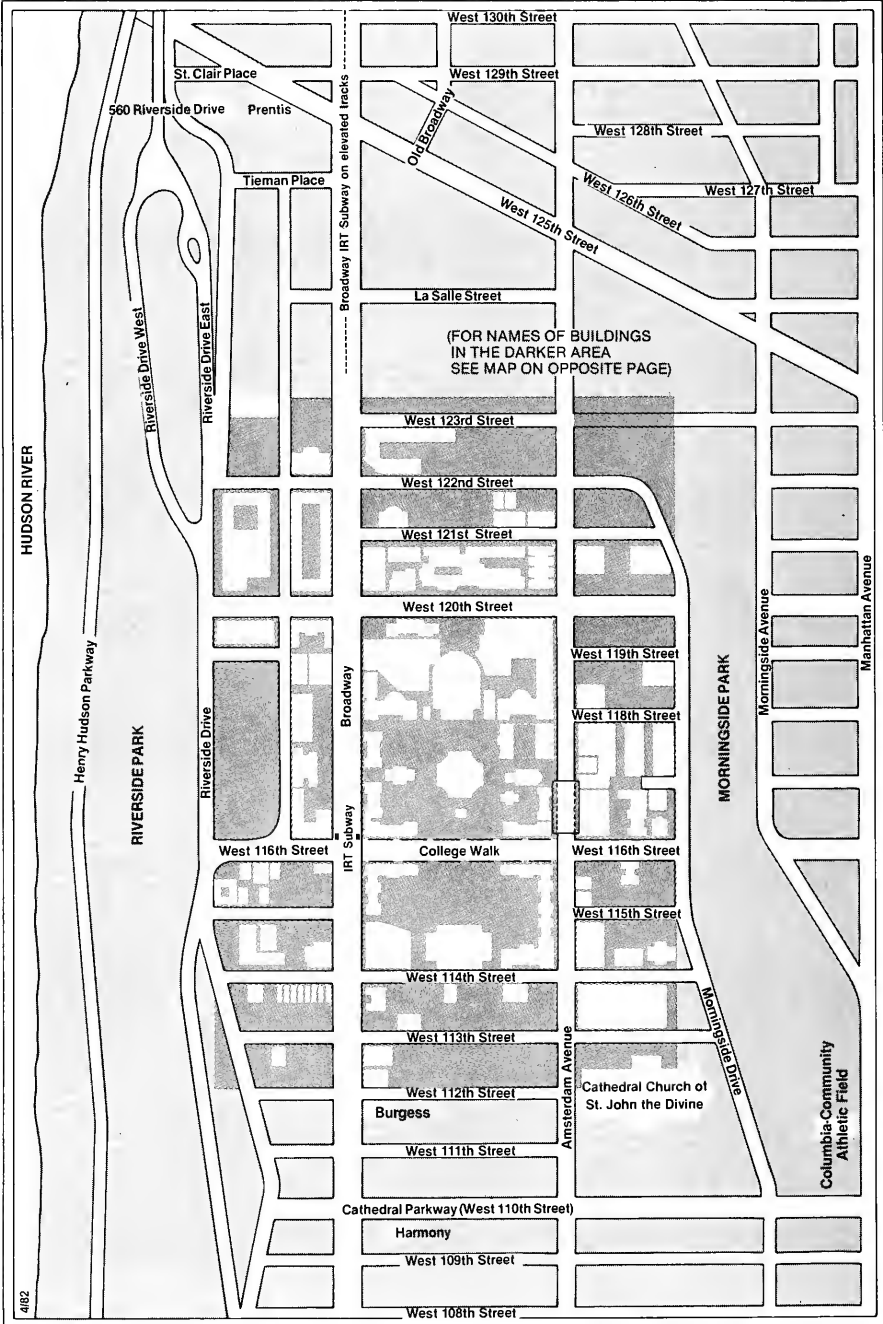
- 14 Friday. Second term ends for first-year D.D.S. degree candidates.
- 27 Wednesday. Second term ends for second-year postdoctoral students.

JULY

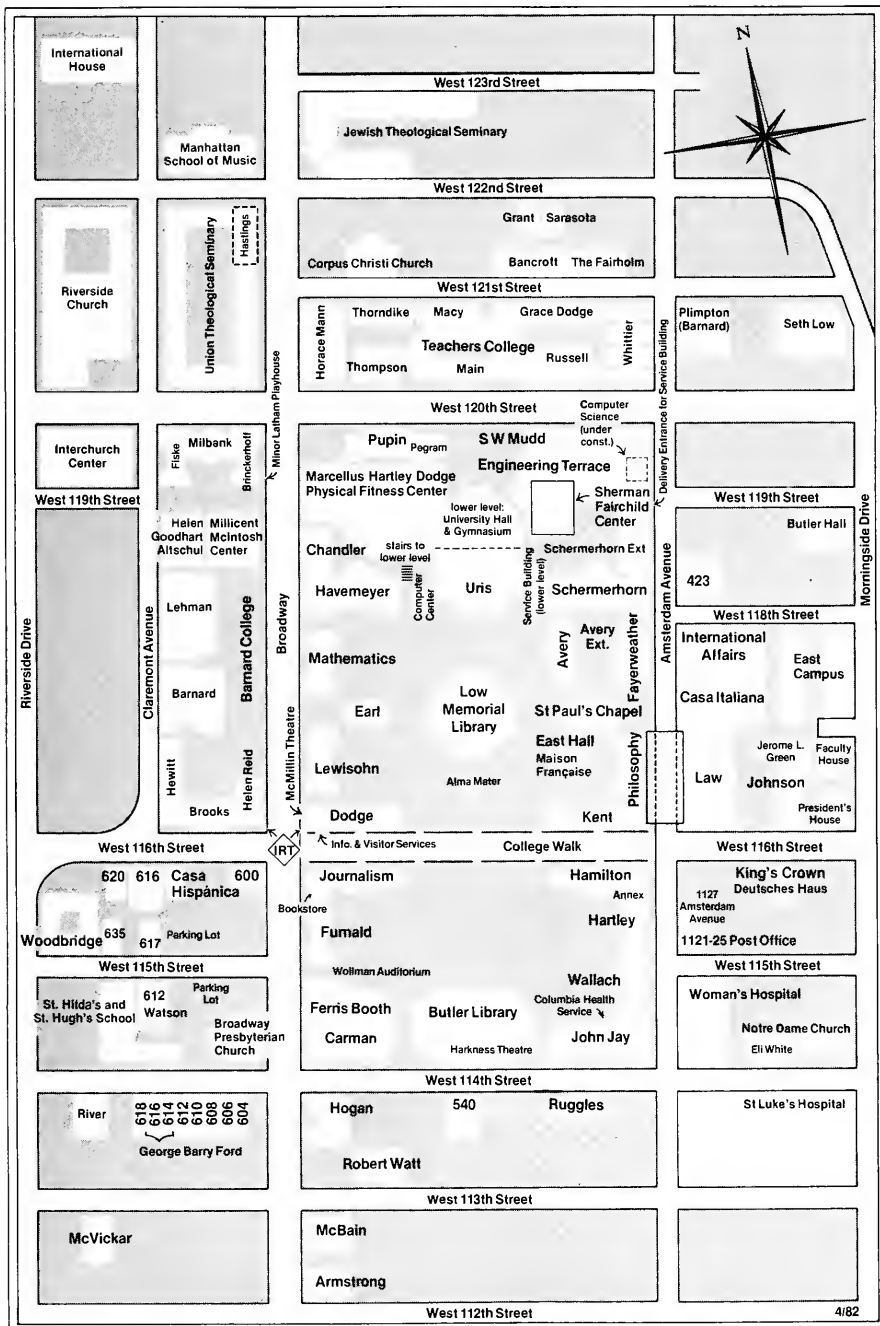
- 4 **Monday. Independence Day. University holiday.**
- 19 Friday. End of Summer Sessions II and III.
- 26 Friday. Summer term ends for first-year postdoctoral orthodontics students.



The Morningside Heights Area of New York City



The Morningside Campus & Environs



Notes

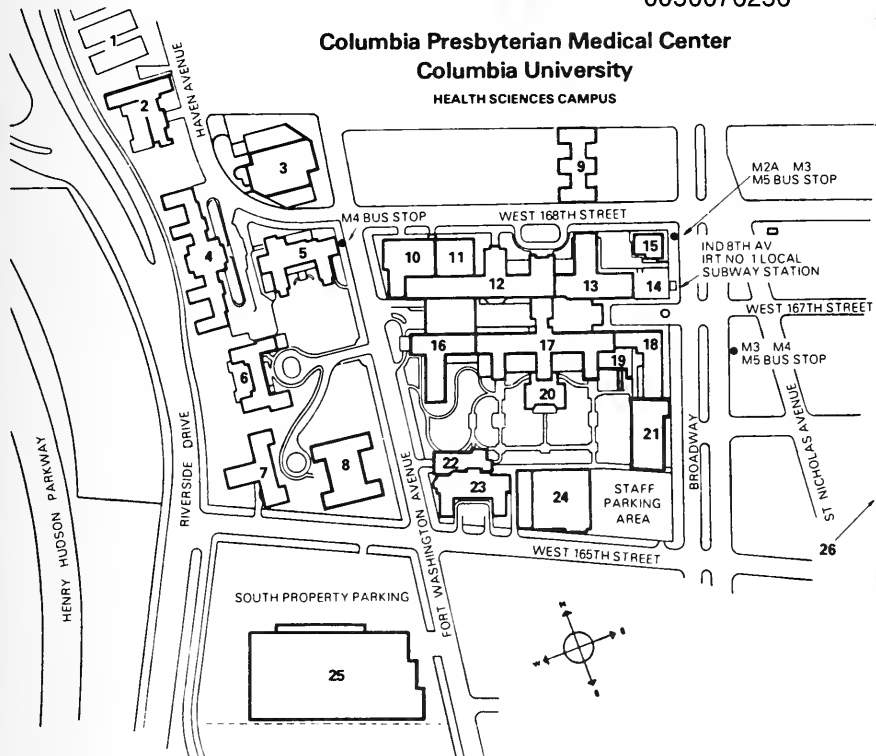
Notes

Notes



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Columbia Presbyterian Medical Center
Columbia University
 HEALTH SCIENCES CAMPUS



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|---|---|--|
| 11 Alumni Auditorium | 13 School of Dental and Oral Surgery | 6 Anna C. Maxwell Hall, School of Nursing Residence |
| 3 Augustus Long Library | 9 Georgian Nurses Residence | 5 The Neurological Institute of New York |
| 8 Dana W. Atchley Pavilion | 22 Edward S. Harkness Eye Institute | 6 School of Nursing |
| 18 The Babies Hospital | 23 Eye Institute Research Laboratories | 25 Parking facilities |
| 21 Babies Hospital Research, Teaching, and Office Addition | 7 Harkness Memorial Hall | 17 Presbyterian Hospital New York Orthopedic Hospital |
| 2 Bard Hall Medical Student Residence | 16 Harkness Pavilion | Sloane Hospital for Women |
| 1 Bard Haven Towers | 20 Pauline A. Hartford Memorial Chapel | Squier Urological Clinic |
| 10 William Black Medical Research Building | 3 Julius and Armand Hammer Health Sciences Center | 4 New York State Psychiatric Institute |
| 3 Cancer Center/Institute of Cancer Research | 3 Institute of Human Nutrition | 4 Psychoanalytic Clinic |
| 24 Central Service Building | 2/12 International Institute for the Study of Human Reproduction | 15 School of Public Health |
| 12 College of Physicians and Surgeons | | 19 Radiotherapy Center |
| 26 Center for Community Health Systems | | 13 Vanderbilt Clinic |
| | | 14 Vanderbilt Clinic Addition |

